Managing Projects: Challenges and methods

Mounir A. Ajam

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Mounir A. Ajam

Project Management I

Challenges, Opportunities, Methodology

Project Management I: Challenges, Opportunities, Methodology
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Dedication

To my family
Nabila, Sumer, and Akkad
To all current and aspiring project managers,
whether by accident or a career choice!

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Acknowledgements

The indirect influence for the project management model that I present in this writing project goes back to my early career in Exxon Chemical. I credit my first team leader, Mr. Ralph Spears. In addition to Ralph, I recognize Mr. Ed Boyle, Mr. Jack Foerst, Mr. Charlie Thompson, Mr. Tony Leyesa, Mr. Jimmy McGregor, and Mr. Tom Sinkovic. It was during that early stage of my career when I had learned the value of a **disciplined approach to project management**.

The groups of people listed below have had a direct impact on enhancing the project management methodology, which I describe in this Series of four eBooks. We are publishing the four eBooks together since they are integrated and one need to read the full Series for better understanding of the The Customizable and Adaptable Methodology for Managing Projects™ (CAM²P™)[1], which is the central topic in the Series.

First, there are Mr. Luc Bauwmans and Ms. Nada Chaban, part of our team at SUKAD[2]. Nada was the first to use an initial version of the model on a marketing project, and as a result, of applying its concepts, there were opportunities for a great deal of clarifications. To quote Nada: "*the model has taught me how to manage projects in a different way; with it, I have the confidence to tackle any project*." This led to the methodology described in this Series, a simplified and practical approach that practitioners can use across industries and sectors.

Other contributors to the model are a group of MBA Interns from the Hult International Business School Dubai campus. At the start of the short internship period, all interns attended a 3-day workshop on the model. Then we assigned each of the interns a project, a real project from SUKAD's internal portfolio, with the condition that they must follow the model. Further, we did empower them to explore and challenge the model. Throughout the internship, the SUKAD team coached the interns on the proper use of the model. We should emphasize that these were MBA students, with business or technical experience but not project management. This was a tough testing situation since we wanted to validate the use of a project management model, and if the model was effective for (a) use by non-project management professionals and (b) a variety of projects.

Here is a list of the MBA Interns and their projects, listed alphabetically:

- Mr. Srihari Chodagiri – Implementation of a Quality Management System
- Mr. Akhilesh Gupta – Project Management Conference
- Mr. Rohit Kajaria – SUKAD Social and Professional Initiatives (2SPI)
- Mr. Sudhir Nijme – Survey and Analysis of Existing Clients
- Ms. Kay Nikookary – Outreach Program
- Mr. Tarun Talwar – Establishing a Learning and Development Centre.

In addition to the Interns' projects,

- Nada (from the SUKAD team) worked on a 'Road Shows' Project
- The author used the model on a 'Writing a Book' Project[3]
- Mr. Mohammed Rezek and Ms. Manar Yazbeck (two SUKAD postgraduate graduates) used the methodology on a 'Project Management without Borders' Project
- The SUKAD team also used the methodology concurrently on various other projects.

These projects took place in 2009, and since that time, the SUKAD team has been using the methodology on several other projects[4].

The following professionals have been valuable contributors to this writing project as reviewers of the initial draft: Mr. Ibrahim Awad, Mr. Sofien Dhouib, Mr. Theofanis Giotis, Mr. Youssef Saad, Mr. Luc Bauwmans, and Ms. Nada Chaban. Both Luc and Nada has been patient enough since the initial draft to review the second and third drafts of this work leading to this final edition.

I must also recognize Mr. Alfonso Bucero who not only wrote the review for ***The Inheritance***[5], but also reviewed and wrote the Foreword for the book that we intended to publish and is now this eBook series. Alfonso – "today is a good day"!

I acknowledge Mr. Mark Jones for editing parts of the Series. Mark did edit our English and offered many valuable suggestions, which we incorporated into the final version.

Last but not least. Before finalizing this work, the SUKAD team conducted a few workshops in Dubai, Al Ain, and Abu Dhabi, United Arab Emirates. There were about 200 participants representing different industry sectors in those workshops; about 30 to 40% were holders of project management certifications and the others were mostly new to project management, including college students. In the workshops, the SUKAD team presented and explained CAM^{2}P™ through group activities. We then grouped the workshop participants by industry/business sector and asked them to customize the model to their own environments. We gave the participants less than one hour to complete this. Part IV of the Series contains some of the output from those workshops. Those workshops proved to us that this simplified approach is viable and can deliver on what it promises. We greatly appreciate the contribution of these participants.

Significant Contributor

The author acknowledges the significant contribution of Mr. Mark Jones who performed an initial edit on Part I and III of this Series. In addition, Mark challenged us and offered numerous suggestions for improvement, and we incorporated most of them in this Series.

Mark Jones is an experienced project manager with over 30 years of improving business operations with computing solutions. In addition, he is a published author (*Project Management Competence – a Pragmatic Guide to Assessment for Project Managers*, and *Why You Need to Employ More People With Disabilities*). His expertise is built on leading large projects and programs for IBM's clients in public sector, retail, utility and telecommunications segments.

Foreword[6]

When Mr. Mounir Ajam asked me to write this preface for his book, I felt excited. The first time I met Mounir was on May 11th, 2006 in the Leadership Institute Master Class7 in Madrid. In that class, he showed up his leadership skills, and something in my mind told me, he would write a project management book someday. Now I am glad to see it. We have been in a very good relationship from then, and I know how passionate he is in the project management field. So the basic comment from this book is "*we have a practical oriented book*".

I believe this book is a mandatory text to be read by all project managers.

You will not be surprised if I say that project management is about people. The author is very aware of that, and he has been able to use a great communication vehicle between the writer and the reader, using clear examples and diagrams. I had the opportunity to work in the Gulf8 region last year, and I could observe the need of project management education and training in organizations in that region. There are huge projects in the Gulf region and organizations need practical and experienced professionals to manage them. Mounir's book has achieved his objective in a very understandable and easy to read manner. He has put "practical ideas" in the hands of the practitioners.

Professionals need and want to learn from practical project management examples. The reader should know that project management certification must be a goal for better and better project management professionals, but after being certified project professionals need to put in practice all the theory. Welcome to the real world: put your feet on the land and apply project management principles. The process described in this book is really practical and useful from the inexperienced project manager to the very experienced project manager.

Go ahead, read the book and see the value of practical project management in organizations. "Today is a Good Day" to start. Apply your passion for learning, be persistent in applying project management practices in organizations, and use your patience selling project management concepts and ideas to people in organizations. Don't stop, just take action.

Alfonso Bucero, MSc, PMP

Managing Partner & CEO
BUCERO PM Consulting

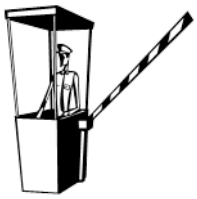
A PMI Fellow, highest PMI honor
Winner of the PMI 2010 Distinguished Contributor Award
Author and co-author or more than one book on project management[9]

Icons and Their Use

The following are icons that we use in various sections of this work.

This icon represents a 'deliverable'. A deliverable in project management is a defined work item (scope) that when finished, is **delivered** to management or a client. The deliverable could be a report, a design package, a software tool, or even a physical facility, like a factory. The deliverable can be small and require hours or days to deliver or could be substantial requiring weeks or months to finish. The deliverables discussed in this Series are typically the main stage deliverables, which a project team completes with each stage or sub-stage.

The second icon represents 'further reading'. We use this whenever we encourage the reader to refer to other sources. This way, the author can maintain focus on the new content in this Series and avoid too much detail on topics that other references may cover better. The reader can find a partial list of resources in Appendix D and may want to explore these topics using search or other reference tools.



This icon represents a 'stage gate' or a control point, which is a fundamental concept in the stage gate approach, which we describe in this Series. Stage gates are key elements of governance and control to ensure alignment and flow of the project in alignment with established objectives. They are applied along the project life span from idea to closure.

This icon represents case studies. In this Series, we share many stories and case studies to illustrate points in each Part. In order not to disturb comprehension of the main points, we typically place the case studies in text boxes so the reader can skip them for review later. The author has direct experience with most of the case studies that we present in this Series.

We use this last icon when we aim to persuade the reader to ponder the open questions that we address. Some of these questions could be provocative, controversial, or challenge conventional wisdom. Notwithstanding the author's particular views, he understands that managers legitimately have differing views of the same circumstances; we expect the readers to develop their own opinions, and respect that such opinions might contradict what the author presents.

The Project Management Series

1 Introduction

This is the first eBook in a four-part Series on project management. The Series central element is The Customizable and Adaptable Methodology for Managing Projects™ (CAM²P™), a project management approach that the author has developed and continues to enhance.

The eBook Series is a derivative from a book the author wrote three years ago but has not published yet but will publish before the end of 2013. The book title is '***Redefining the Basics of Project Management***' (Ajam 2013). The Series is also a follow-up to these published works:

- ***The Inheritance*** *(a story about friendship, community, and project management);* (M.A. Ajam 2010) self-published by the author in 2010,
- ***Project Management for the Accidental Project Manager*** (M.A. Ajam 2013), published as an eBook in 2013 by Bookboon.com, and
- Numerous articles and blog posts, on http://blog.sukad.com/.

The objective of the Series is to introduce the reader to an effective project management methodology, a systematic approach for managing projects. We will also provide explanations of the CAM²P™ concepts and how to apply them, to give the reader a learning environment where one can apply the learning as the reader move from one Part to another and one Chapter to another.

2 Methodology and Series Information

The following are brief points about the methodology and the approach that the author presents in the Series. These points help the reader understand the background and rationale behind this work.

2.1 Method versus Methodology

The author recognizes that there could be differences of opinions on whether CAM²P™ is a method or a methodology. The author is not a linguistic expert and cannot be sure on how experts would define this approach and whether they would call it a method or a methodology. In general, a method is "a particular procedure for accomplishing or approaching something"[10] whereas a methodology is "a system of methods used in a particular area of study or activity."[11]

Based on this understanding and other information, the author recognizes that for a given situation, a specific project context, CAM²P™ would offer a specific model – a method. However, CAM²P™ and the Series are about a management approach that is not restrictive or limited to a given project context, and this approach is customizable and adaptable, a "system of methods used in a particular area of study," then methodology is the appropriate term for The Customizable and Adaptable Methodology for Managing Projects™.

2.2 Types of Projects

The methodology is appropriate for all types of projects, small or large, simple or complex, private or public sector, profit or not-for-profit environment, and most of all, for business or life projects. Since *'one size fits all'* **is not** an acceptable approach in project management, the model design allows a user to customize and adapt the methodology to fit organizational needs and requirements.

2.3 Audience

The methodology and eBook Series are excellent learning resources for those new to project management, who want to learn a fundamental model to manage projects. They are also fantastic resources for experienced project managers, including those who hold a professional certification.

Although a reader who is new to project management can benefit immensely from this Series, there might be exceptions. If one has no exposure to projects or project management, and the reader only need a foundational project management education, then the author advises the reader to read our earlier work first, either ***The Inheritance*** or ***Project Management for the Accidental Project Manager***. Those two resources cover CAM²P™ but in a basic form and easy to read style, therefore, they are more appropriate for this audience. As we already stated, this series builds and expands on the earlier work.

For the readers with exposure to project management, but maybe limited to one professional association's approach[12], the series may challenge them and open doors to new thinking and approaches. Since the methodology is closely linked to the Project Management Institute (PMI) framework, the author expects that some readers will be those who learned project management through PMI® and some of them would be the holder of one PMI credential or another. The author recognizes that the presented information will lead some to either question their learning and conventional wisdom or will challenge what the Series advocates. On the other hand, what this Series offers, will confirm what many practitioners already know and practice around the world.

In other words, we recognize that a limited number of PMI-educated project management professionals might find difficulty in accepting the methodology and quickly reject it. We ask these readers to read, analyze, and understand before they judge or reject. For this group we offer additional explanations throughout the Series. The additional explanations are sections within chapters and even specific chapters covering areas of potential misunderstandings.[13]

2.4 Depth of Coverage

The purpose of this Series is to explain the methodology and not to be a single reference for project management. The intent is to build on what exists. Therefore, in various Parts and Chapters, we touch on the subjects that are relevant to the methodology, which might not be available in other resources. However, we do not explain the details of topics where we know there are good published resources.

3 The Series Four eBooks

The Series is in four Parts, four eBooks.[14] It is important to note that we are publishing these eBooks together and they are integrated. One can learn from one Part or even a few chapters. However, for better understanding on how to apply this project management approach, a reader needs to cover all four parts.

The four Parts are:

- Part I (eBook 1): This is the first Part and it is in two sections. Section 1 discusses the initial concepts along with project management challenges and opportunities. Section 2 offers a brief introduction of the project management model and reasons behind its development. This Part also includes alignment to international standards, most specifically the PMBOK® Guide.[15]
- Part II (eBook 2): In this second Part, the reader will find an in-depth description of each stage of the model. The author elaborates the core concepts of each stage and explains the sequence of events, stage deliverables, and stage gates. Further, within each chapter, the author maps the PMBOK® Guide (PMBOK Guide 2013) process groups to the appropriate stage and the overall project life span.[16]
- Part III (eBook 3): This contains essential topics that are not limited to a project stage but relate to the full project life span, in an '**across the project life span'** manner. These topics include project approvals, estimating, control, risk, project success, and project stakeholders. Another section in Part III discusses the model's customization and adaptation features, along with potential pitfalls.
- Part IV (eBook 4): This final Part shifts from the Series' 'what and why' of the model into its 'how to apply' explanation. Most of this Part presents a complete sample project,[17] supplemented by examples from workshops on tailoring the model to different application areas and project domains.[18]

In summary:

- Part I is introductory and include the rationale for the methodology and Series
- Part II describes the details of the methodology and its stages
- Part III presents information that are relevant to the methodology but not specific to a stage
- Part IV explains applying the model in different environments along with a complete sample project.

Section 1:
Challenges and Opportunities

1 Growth of Project Management

1.1 Introduction

The project management domain has been growing in popularity over the years, and the current reality is that project management practices are widespread across all types of projects in a variety of industries and business sectors. These include non-profit, health care, oil and gas, information and communication technology, pharmaceuticals, marketing, education, human resources and numerous others. Project management skills are essentials at all organizational levels and for projects of all sizes from micro to mega projects. There are numerous associations dedicated to project management and to areas of focus within project management.

1.2 Value of Project Management

Over the last two or three decades, project management[19] has been emerging as core capability for organizations across various industries and business sectors.

Although project management has been around for decades, modern project management emerged in the middle of the twentieth century, specifically in the defense industry and major infrastructure (engineering and construction) projects. In recent years, project management started to emerge strongly in technical domains such as information and communication technology, and all types of businesses.

With the turn of the century, project management has been exploding globally with large numbers of professionals from all domains learning project management or even changing their careers into project management. Today, large number of practitioners still comes from traditional industries like defense, petroleum, engineering and construction, and technology but project management is spread into aviation, pharmaceuticals, healthcare, food, utilities, marketing, tourism, and general business.

The fascinating growth of project management, including in not-for-profit, government, and non-governmental organizations (NGO), has led to a huge growth in professional associations' membership and people seeking certification, By the end of 2012, PMI alone has more than half a million people holding one PMI credential or another. Other professional associations are spread around the globe with large number of practitioners and certified professionals. Since this Series is not about proving the value of project management we refer the reader to the various associations advocating project management and we provide a partial list in Appendix C.

1.3 Project Management Education

Despite the value of project management, it was only a few years ago that almost no university offered project management as an independent educational domain. Even today, project management education is limited to a number of universities and mostly at the postgraduate level. Project management education is still rare in colleges or as an undergraduate field of study. Consequently, to learn project management, professionals often rely on the literature from not-for-profit professional associations, educational providers and published literature. Alternatively, they learn on the job.

1.4 Emerging Profession

The reality is that project management is still a growing domain, even an emerging profession[20], and consequently it is still evolving. There have been many achievements in the field of project management, which are reflected in its phenomenal growth. Yet, we still believe that there are many challenges and opportunities. The growth of project management came at the price; the price is damage to the image of the emerging profession and to certification. We recognize that this is a controversial statement and some will debate how could there be damage while the emerging profession is still growing in numbers and professional certifications. We will elaborate on this point, in this chapter and other chapters.

We will explore project management from various angles and present the circumstances that led us to develop a methodology for managing projects, which is the focus of this work[21].

1.5 Point to Ponder

Project management is an emerging profession where a large percentage of its practitioners do not have formal education or training in this domain. Many are technical or functional specialists who are reliable professionals *in their domains*. Then management assigns them and expects them to manage projects. The situation becomes complicated since management's expectation is that these specialists should perform, in the project manager role, at the same level of performance as in their working field of expertise. These professionals are what we call 'accidental project managers.[22]'

In light of the above, the point to ponder is ***Do you agree that the above practice is common and rational***?

If not, we still ask the reader to continue reading and investigate the points that we present here.

To expand on the last point, let us break up the question:

*Why do you think executives and senior managers…assign non-project managers, those with no training or education in project management, the responsibility to manage projects…*and e*xpect them to perform, in a project management role, at the same level of performance, as in their educational or professional field*?

Let us look at this issue from different viewpoints.

- Would any of us go to a hospital administrator to seek medical checkup or surgery?
- Would we choose a legal assistant to defend us in a court case?
- Would we even go to a butcher to buy bread?
- Do we seek a marketing professional to fix a computer?
- Can an excellent practicing civil engineer immediately step up and manage the development of a substantial structure or facility?
- Can an excellent computer engineer step up and manage a complicated telecommunication infrastructure project?
- Can a human resource specialist all of a sudden manage an organizational change project?

If not, then why do we assign management of projects to staff other than project managers – **and** – continue to expect good, or even excellent, performance?

We do accept that many technical and functional professionals can learn how to manage projects – and some become experts – but they must be properly trained **before the project** and not be thrown into sink or swim situations and made to learn under fire; the possibility and cost of failure is extremely high on the individual and for the organization.

We have observed that too often executives make these decisions then wonder why projects fail. We think that some executives do not fully understand the risks associated with the accidental project managers' conundrum, which is leading to increased threats of failure.

What do you think?

1.6 A Growing Domain

Over the last couple of decades, predominantly since the mid nineteen nineties, project management has been emerging as an active and highly valuable occupation to business in general and to all industry sectors. It is no longer limited to traditional industries such as defense, construction, and capital investment projects. The reasons for this growth and the strong emergence of project management are beyond the scope of this Series.[23] It will suffice to say, there are many factors that led to project management emerging as a strategically valuable capability for organizations across all sectors.

Along with this significant growth, there is a broad consensus that project management is transforming from *managing individual projects*, into providing a higher level of *organizational value* through the application of program and portfolio management principles. It is apparent that slowly the obstacles and barriers between *organizational* project management and operational management are being broken in organizations across the globe, as direct links between 'project management' and 'organizational (operational) management' strengthens.

In summary, **Organizational Project Management**[24] is the essential link that bridges the gap between an organization's strategic objectives and the realization of these objectives, through projects and programs. In other words, it is about transforming vision and ideas into reality.[25]

The focus of this work is mostly about simplified and practical project management and we limit the discussions here to managing individual projects. However, we stress the need for a strategic perspective even at the project level, which we have embedded into the methodology that we present in this Series.

1.7 Traditional Management versus Project Management

When and where did project management start? Was it with the large defense projects in the United States, with the pyramids in ancient Egypt, the Great Wall in China, the Acropolis in Greece or even further back to the earliest recorded civilizations such as the Sumerians and Acadians? The answers, though interesting, are not directly relevant here. What is relevant is that many will agree that **modern project management** is a twentieth century phenomenon and its considerable growth is in part due to professional associations advocating the importance of a different approach to managing projects. We think that one factor that fueled the growth is that traditional management failed in ensuring the successful completion of projects, thus necessitating the need for a different approach, which we now call project management.

1.8 Role of Professional Associations

Professional associations, which focus on the advancement of project management, have been around for close to fifty years. If we tally the count of their members from around the globe, it would be close, if not over a million. This is in addition to the millions practicing project management without being members in any association.

Boston, Massachusetts, April 23, 2009 – New Standish Group report shows more project failing and less successful projects.

The CHAOS Summary 2009, documents:

- "32% of all projects succeeding which are delivered on time, on budget, with required features and functions."
- "44% were challenged which are late, over budget, and/or with less than the required features and functions"
- "24% failed which are cancelled prior to completion or delivered and never used."

"These numbers represent a downtick in the success rates from the previous study, as well as a significant increase in the number of failures" … "This year's results represent the highest failure rate in over a decade".

Source:
http://www.standishgroup.com/newsroom/chaos_2009.php

These associations have played a significant role in the growth of this emerging domain, through their various standards, certifications, and marketing efforts. There are probably more than fifty different certifications related to project management, by the various global associations who offer these certifications. Yet even with so many practitioners, associations and certifications, we know one thing for sure: **something is missing**. That something is preventing us from delivering consistently successful projects. Perhaps it is just human nature's inability to be consistent or maybe we are right in stating something is missing.

With the view that traditional management is not enough and project management is a possible answer to those shortcomings, then the question becomes: with years of professional practice of project management, even supported with the presence of active professional associations and their various standards and publications, why are so many projects still challenged or even failing?

Here, we ask a second question, *has project management succeeded in overcoming the shortcomings of traditional management?*

This is an intriguing topic to debate since it is crucial to help us understand if project management is working, and if it is completely filling the gap left open by traditional management.

We close this chapter by asserting: something is missing from today's project management.

2 Challenges: The Growing Pains

2.1 What Is Missing?

What are the challenges we face in project management that are still preventing us from reaching a higher level of consistency in project performance: more successes than failures and challenges[26]?

The question is pertinent, and we are not sure if anyone knows the answers with a degree of certainty or even high confidence. What we are sure about is the need for further research by the project management community; further ***soul-searching research*** and not just general research to indicate project management is valuable. Project management is demonstrably valuable, and as we mentioned earlier there has been quite a few research on this topic and even quantify this value. However, tough questions remain and the project management community, whether practitioners, global associations, organizations, researchers, academics, or executives must try to address them.

But if we have no answers then how can we deal with these challenges?

Let us discuss what we *do* know.

We know that project management is an **emerging** profession; therefore, it is natural and expected to experience challenges and growing pains.

The following challenges are the author's professional **opinion;** emphasis is on opinion. We share them here, to encourage the project management community to research these topics and debate them. It is vital to increase our collective knowledge with the ultimate purpose being the betterment of the emerging profession, its practitioners, organizations, and ultimately, society.

What are these challenges?

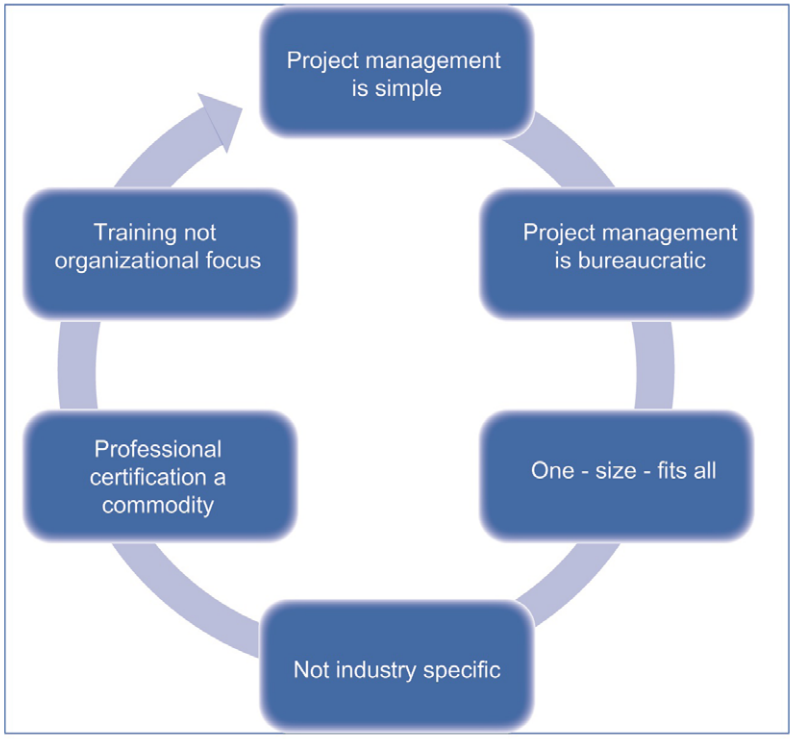


Figure 1: Project Management Challenges

2.2 Challenge 1: Project Management Is Simple

We link the first challenge to the 'Point to Ponder' that we raised in Chapter 1, which was *why executives ask technical and functional professionals to assume the role of project managers without prior or proper education, training, or experience in project management*.

We think the reason this happens is the perception, not to say a myth, that some organizations' professionals, managers, and executives perceive ***project management as simple***.

If project management were simple, this would typically be fantastic news and would mean more practitioners embracing it. However, real life is a different story. When those professionals who underestimate and misunderstand project management try to use its principles, what happen is either they try to simplify it to the point it becomes ineffective and so no value is added, or they find out that it is more difficult than initially perceived, get discouraged, perform poorly and even drop it altogether. In either case, executive management is likely to discard project management as a useful practice.

Here is an illustration of this point; readers may have faced similar situations to what we share here:

- We sometime get requests from clients that copy and paste the outline of a project management standard and put it in **an email** 'Request for Proposal' (RFP). In this email-RFP, they ask for **one- or two-day training** that covers all the topics on the list. Further, they want to include case studies that are applicable to their business.
- Another situation we often face is people telling us, "*we know project management, I took it in college*." When we drill for clarification and ask, "*What did you take*"? The answer often comes back "*I took one course*" or the second most popular answer is "*I took a scheduling course*." These individuals do not realize that scheduling is **only** one element in project management.
- Another situation is about tools; *see bottom of text box*. There is a belief that a tool, like a scheduling tool, is all that is needed to apply project management. Tools are beneficial for efficiency but not effectiveness. The reality is that a scheduling tool without proper project management planning and experience is nothing more than a to-do-list. The essential engines of project management are **processes, people, and tools** and one cannot depend only on one of these engines.

There are many other examples, but we trust these suffice for now.

The text below is from a real email 'request for proposal', unedited by the author. The request was for 1-day training. When we tried to ask clarification questions, the client representative told our business development manager that we ask too many questions.

"*Project management training requirements for both employees and management.*

Employees (Initiative Owners):

- *Team building activity*
- *Time management*
- *Identify project management processes*
- *Understand project management terminology*
- *Correctly identify the roles involved in project management*
- *Describe project success criteria and success factors*
- *Support and contribute to a successful project outcome*
- *Prepare project documentation*
- *Detailed Work Breakdown Structure*
- *Resource planning*
- *Construct a project budget and use it to control project costs*
- *Report progress and identify deviations from plan*
- *Follow up on activities*
- *Risk identification & handling*
- *Develop communication skills*
- *Recognize different team roles and adapt behavior as necessary*

It is important that application training is provided as well as the theoretical part. Software such as MS project, Primavera or similar applications would be useful so that the training would be hands on and targeted to fit our needs."

Such oversimplified views by executives and professionals alike are due to a lack of understanding of what project management is. Globally, governments and private organizations spend trillions of dollars on projects yet some still believe project management is something that can be learned in a single day or a few days of training, or under fire. Some also think that over-emphasized certifications will turn people into expert project managers.[27] The net outcome: project management under these circumstances fails to solve the organization's problems and as a result, is perceived as a failure or simply ineffective. Management is therefore inclined to avoid or drop it; **opportunity lost**!

2.3 Challenge 2: Project Management Is Bureaucratic

Another challenge that we observe, which limits the growth of the proper practice of project management, is the perception that it is bureaucratic. "*Do you really want me to do all of this paperwork? I could be done with my project by then.*" Another comment: "*We do not have time to plan.*" A recent comment: "*Wow, we need an army of people to do all of this*"!

> "*If I had eight hours to chop down a tree, I'd spend six sharpening my axe.*"
>
> President Abraham Lincoln
>
> Reference: http://c2.com/cgi/wiki?SharpenTheSaw

If such bureaucracy exists then the issue is likely not project management but inherent challenges within the organization such as an ingrained and pervasive bureaucratic culture. In these situations, we have to address the underlying organizational issues in order to implement effective project management solutions.

2.3.1. Contributing Factors

We do understand some of these comments because we have seen professionals, and even consultants, who do not understand **practical** project management. We meet project management practitioners who try to overcompensate for their lack of expertise with cumbersome processes that are to the point of being ridiculous. We meet project management instructors who do not understand the difference between a '**project** life cycle' and a '**product** life cycle'; or a 'project life cycle' and 'process groups'; or a 'tool' and a 'technique'. Some are not even aware that a framework is not a methodology yet they try to 'teach' that it is.

2.3.2. Analysis Paralysis

We also meet managers who cannot make decisions – so they keep going back and forth requesting more time, more data, more planning – leading to 'analysis paralysis' which is another form of bureaucracy.

2.3.3. Excessive Planning

One more contributing factor to the belief that project management is a bureaucratic process is excessive planning. There are perfectionists in life who believe a plan must be perfect. If the plan is perfect then why do we need project managers?

> *"One cause of failure is the assumption that a more detailed plan permits the PM to have a tight control over the project ("preoccupation with planning"). Heavily detailed plans limit freedom and decision making capabilities and inhibit the global vision that the PM should*

We have to keep in mind the "law of diminishing return."[28] In this case, practitioners can put a great deal of effort while trying to perfect a plan but the benefits would be minimal and do not make economic and business sense.

Planning, like project management, is an art and a science. It seeks to strike the right balance, which is the difference between success and failure; between ability and inability; between competence and incompetence. There are professionals, practitioners, and even consultants who miss the point that project management must be a **facilitating process** to help organizations deliver their projects efficiently and effectively. Project management must follow a **disciplined approach** while maintaining flexibility in order for it to be the catalyst of success.

PM System or Manual

A major company hired SUKAD a few years back to help them improve their project management manual, modify existing sections, and add missing topics. When we visited the client to define the project mission, collect their requirements, and identify what exists, we met with many of their senior managers. Some told us "*we have a good system*," in reference to the manual. Between the lines, they were telling us *"we do not need you."* Some stood by these statements but others added *"but no one use it."*

When we met with a group of their project teams' members to discuss the manual, there was no alignment on the scope of the manual or an understanding of its content. We expected this misalignment since "no one uses it."

2.3.4. Examples

It is common to find organizations that have large manuals called the Project Management System, but they DO NOT follow it. In these circumstances, has project management failed them or is it their inherent bureaucratic process? Refer to *PM System or Manual* box.

At the other extreme, (refer to second box) if project management is laissez-faire then its value is lost along with its effectiveness. For example, if every idea becomes a project and organizational resources work on these projects, then when subsequent authorized projects come along, two potentials scenarios arise:

- The first is that no resources are available and a good project is lost, possibly to a less valuable one
- The second is that organizations cancel the less significant projects and the effort that went into them is wasted.

Project Management Laissez-Faire

In a meeting with another client, also a major global player and a known brand, the manager in charge of improving project management was tearing out his hair.

"Mounir, the challenge in this company is that when I asked for a list of projects no one had it. I started to collect the information and I was shocked to find out that we have hundreds of projects at various stages."

"What is happening here is that anyone with an idea then it is a project and people start to work on it with no control points or validation."

The scenario we explain here is mostly part of portfolio management, rather than project management, but is also applicable to decision making on authorizing projects, especially the absence of a formalized process.

2.4 Challenge 3: One Size Fits All[29]

Because of oversimplification of project management, many believe that one standard works everywhere, in different industries, different functions, and different size projects. An example is perhaps the best way to explain this. A colleague who is the manager of projects in a utility distribution company shared this with us.

A recent posting on LinkedIn;

"You can find [certified]* individuals who can recite [the standard] verbatim but do not know how to manage a hot dog stand."

We use [brackets**] to alter the original names of specific certification or standard.*

A so-called project management consultant came to sell this client his services; the consultant had experience limited to a single domain, Information Technology (IT). In the course of discussing the consultant's project management service offerings and how they apply in helping to manage their projects in the utility industry, the client asked the consultant "*how can someone with IT expertise offer us help on how to manage major engineering and construction projects*?" The consultant said, "*There is no difference – project management in IT is the same as in Construction*"! The consultant did not get the job[30].

While it is true that there are common project management principles across industry sectors, businesses, and types of projects, stating they apply universally is a fatal error as the IT consultant discovered. The differences are large in term of the amount of capital investment, project size, logistical requirements, complexity, safety, and number of people involved. Not understanding these differences hampers practitioners' ability to offer effective solutions and deliver successful projects.

In summary, one-size-fits-all does not work in project management.

2.5 Challenge 4: Not Industry Specifics

Recently we had a prospective client asking for "*PMP for construction*"[31] for their construction managers. We had to tell him "*it does not exist*."

We asked about the objective of the training, he said, "*I want them to learn new approaches in order for them to understand project management for construction and significantly improve their project performance. I want them to be able to apply what they learn immediately on their construction projects*."

The answer, "*Forget the PMP® at this stage*." We said this to a general manager, who had issued a memorandum to his organization making the PMP® Certification one of the requirements for all future construction managers' promotions.

Why did we say this?

Because PMP® certification's training is generic and **we cannot readily apply it on the job in the construction environment for construction activities; it is not enough**. Further, training with a focus on passing an exam is different from a focus on applying the learning on the job. Please note, we are not saying that the PMP® is not valuable or not good – on the contrary, the PMP® certification is quite valuable. However, all what we are saying, in this case, the PMP certification does not directly align to the organization's objective. In this case, the objective was applying project management on construction activities. We further advised, '*once the employees learn practical and applied project management then certification would be a good next step but should not be the first step*'.

The PMBOK® Guide and many other standards are generic standards. These standards include the concepts that are common across industries, but do not address the peculiarities of a given industry.

The good news is the Project Management Institute (PMI) publishes a number of standards that supplement the PMBOK® Guide. These supplemental standards address industry-specific functions, which the PMBOK® Guide does not cover[32], in such domains as construction, government, and defense projects. It is our understanding that PMI is interested in developing similar supplemental guides for other industries. However, the bad news is that PMI is not updating these supplemental standards as regularly as their other leading standards and these supplemental standards are still limited to a limited number of domains.

The author view is that we need a focus on industries for project management to thrive in the future. The global business trends, as we see them, are calling for specializations.

2.6 Challenge 5: Professional Certifications

Building on the earlier challenge, this one is probably the most difficult challenge to write about and the most controversial yet we believe it is quite essential to state here.

A major contributor to the growth of project management in recent years is professional certifications, primarily the Project Management Professional (PMP®), but also other certification such as IPMA® certifications, PRINCE2™, and many others. There is no doubt about the value of certifications in enhancing a professional's skills and in learning about project management. Yet success and popularity of a certification could be a double-edged sword.

A Dilbert cartoon scene shows Dilbert with his mother having lunch…their waiter shows up and says "*how can I help you, I am your project manager*".

This cartoon was all over the internet since for some it reflected the degrading value of a project manager.

Dilbert Cartoons are by Scott Adams. Date of cartoon: 22 November 2011

http://search.dilbert.com/search?day1=22&mth1=11&yr1=2011&day2=22&mth2=11&yr2=2011&x=62&y=10

We think that a major factor for certifications' growth is individuals who want to improve their chance of getting a promotion, or a better job. These professionals use certifications as a catalyst to change a career from a technical domain to project management.

This scenario is a good situation and should not be a concern, correct? Professionals need to grow and they do so by learning new things. Here lays the challenge, 'learning new things'. Certifications, like the PMP, require project management experience, at least three years. What is happening is that some professionals are becoming PMP without enough project management experience, if any at all[33]. In other words, the challenge is not certification – it is the manner in which some professional associations market and award various certifications, along with the perception that the holders of these certifications must be expert project managers.

The popularity of a certificate like the PMP, led to situations where it is common to hear people confuse project management with the name of a certification, thinking that the certification and project management are the same[34] (PM = PMP).

We repeat what we said already more than once in this chapter; to avoid real misunderstandings, certifications are beneficial and have value, but we cannot rely on certification alone as an indicator of 'expert' level performance and we must treat common certifications as stepping stones and a milestone not an ultimate destination![35]

We strongly believe that ***project management is of strategic importance*** to organizations of all sizes and types. If project management becomes a commodity, then its value is lost, and we must watch out for the consequences. If executives hire certificate holders, mistakenly thinking they are expert project managers, and realize, later, that was not the case, they could lose trust in the certification and project management. (Schiff 2013)

2.7 Challenge 6: Training versus Institutional Project Management

The view is that individuals have been driving the demand for certification and project management training as an opportunity for career growth, and this has helped leading certifications to be highly popular. As a result, corporate clients have started demanding the same of their employees or at least encouraging them to obtain a professional credential. Further, some service providers push for certifications because their clients demand it[36]. All of this is good news – partially!

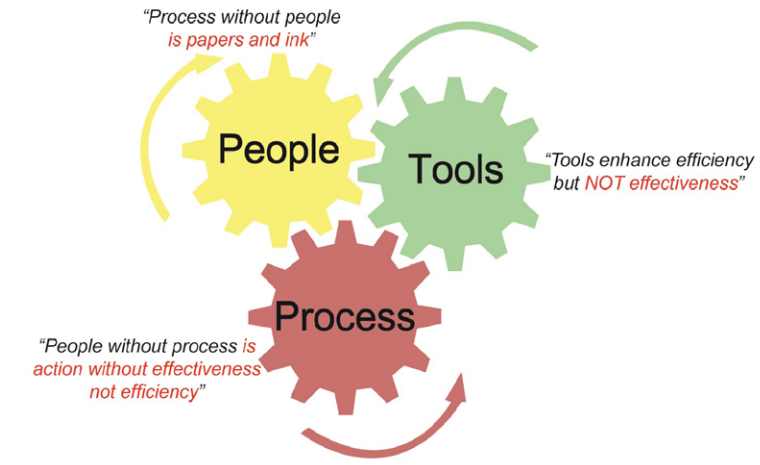


Figure 2: Interactions of Processes, People, Tools

Why is this **partially** good news?

The common reality is that even when **some** organizations support or pay a sizeable amount of money for general project management and certification training, their internal project management processes are either weak, do not exist, or are not in line with a formalized organizational system and framework. In other words, the organization spends on training but do not invest in a project management system and methodology. The outcome: In some cases, project management certificates' holders could not apply what they learn on the job, or could not influence a change, and – here we go again – another lost opportunity.

This dialogue with a client's executive from a construction company, will add to this point.

- Author: *You have invested a great deal in PMP training, why and how is that working for you?*
- Client: *Yes, one of the reason for our investment is for our people to speak the same language*
- Author: *Great, but do not you think that now those you provided with generic PMP training speaks the same language but it is not the same language with the rest of the organization?*
- Client (reflecting): *Yes, you are absolutely right*

Just a few days ago, we had the same discussion with a learning and development manager in another company. We had the same reaction. Organizations are not realizing that investing in generic project management training without linking to organizational processes is not adding as much value as expected.

What we need is to institutionalize project management.

It is essential to establish, or fix, the project management organizational system along with developing people. A project management organizational solution **will** include training and certification but cannot be limited to training and certification!

The author believes that Project management 'processes without people' is papers and ink; 'people without processes is action without effectiveness."

3 Opportunities for Sustainable Growth

Are there opportunities to address these challenges?

Yes!

There are opportunities we can and in fact must capitalize on for a sustainable growth of professional project management. Although we do not know all the answers, you will see our approach reflected in how we chose to construct our new methodology as described in Section 2 and the rest of the Series. Further, following are a few suggestions for the reader to consider.

3.1 Opportunity 1: Organizational Acceptance

Project management has emerged strongly over the years. It is touching many organizations around the globe of all types and sizes. It is touching executives, and there is even interest at the national level within the political hierarchy in various countries. It is also quite common to hear professionals from all industries and at all levels saying, "*I am working on a project*."

Although we observe such a wide acceptance, the acceptance is still not deep rooted and in some cases could be considered merely trendy. Another complication is the lack of understanding of project management. One point of view is that on one side, there is a creative tension between acceptance and lack of understanding and on the other side the opportunity for project management practitioners and researchers to close this gap and reduce the tension.

This is the bottom line: for project management to thrive and persist, we need executive management support and a higher level of organizational acceptance based on understanding and value proposition, not fashionable trends.

3.2 Opportunity 2: Project Management at a Crossroad

We think project management has reached a crossroad.

Great things have happened, but at a price. For example, there has been damage to the credibility of certain certifications, and even though they remain highly popular. This damage also affects the **emerging** profession. Just a few days ago, we noticed this quotation from the CIO online magazine, "Just because someone has the title of "project manager" does not mean he knows how to effectively manage projects as many CIOs and other IT executives have learned the hard way." (Schiff 2013)

Project management practitioners and researchers have an excellent opportunity and a responsibility to arrest further damage, repair what damage already exists, and build toward a better future.

In addition, professional associations have a clear responsibility to put the emerging profession first, even at the risk of an impact on their growth in terms of income and membership. They must trade revenues and popularity to offer creditability and authority.

If we do not see the crossroad, pursue this turning point, and continue on a risky path, a path of growth in numbers and not effectiveness, can we accept the consequences? If we want to sustain and grow project management and its effectiveness then the professional and business community cannot afford the consequences.

3.3 Opportunity 3: Professional Certifications

We raised this point as a challenge, and we raise it again as an opportunity. Its essence is that professional certifications need to support the future evolution of project management, rather than continue past and current practices.

The need is to move away from certifications as a commodity with low inherent value, to their holders becoming capable agents of change. To achieve this, certifications, and the process of obtaining one, must be **stringent** enough in order to gain a true organizational acceptance and not just acceptance as a fashionable trend.

The proposal to transform certifications into an opportunity rather than a challenge builds on two main principles. The first principle is that certifications must represent different levels of expertise, similar to what is in the market now but with more distinction and clarity of capability at each level. The second principle is the link to industry or business sector, due to the need for specialization within project management.

The author proposes this four level approach:

Figure 3: Proposed Approach for Professional Project Management Certifications

- The first level certification (or credential) is the foundation. Some professional associations offer such a credential. **This would be a 'learner' credential and appropriate for a team member** or a new comer into project management. It is satisfactory if this credential is generic and not industry specific.
- The second level is a certification that must be experience and competency-based. We suggest that for this certification to be effective it has to be linked to the job of project manager. Some of the existing certifications today come close to this. However, we think that most of what exists[37] is not appropriate in term of years of experience and requirements. **This would be a 'professional' certification and appropriate for a project manager**. Starting with this second level, there can be generic versions and other versions linked to an industry or business sector.

- The third level requires advanced expertise or subject matter expertise, depending on the industry or application area. We suggest combining competence with **proven performance** in addition to an exam.[38] We can validate proven performance on the job. **This would be a 'senior project manager' or 'subject matter expert' certification**. It is the author's opinion that this certification **must have a link to an industry or business domain**.
- The fourth level fulfills the need for a master level certification: a **'subject matter expert'** or **'subject master'**. The holder of such a certification would be recognized as a leader or an authority in his or her domain.

Please note that these four levels should not be confused with the four levels that IPMA, the International Project Management Association[39] offers. There are similarities, but they are not the same. As noted, there is a requirement for industry-specific certifications at levels three and four, and possibly at level two[40].

For example, we see a need for specialize certifications for capital projects, software development, information and communication technology, defense, government, education, and possibly others. These would be at Level 2, 3, and 4. On the other hands, many business domains such as marketing, advertisement, media, human resources, training, and similar domains might not need a specialize certification and a common generic one is satisfactory. Further, for these domains, three levels might be satisfactory and this is perfectly understandable[41].

3.4 Opportunity 4: Outreach to New Grounds

Another opportunity is to reach out to all of those working on 'projects' but who are not necessarily trained for project management. Some professionals are not project managers nor do they need to be. To repeat: **they do not need to be professional project managers**. Consequently, certification is not necessary for them and might not even be an objective. What follows is that to reach these professionals there is an essential requirement for simplified and practical project management without focus or emphasis on mandating certifications.

When infants are growing up, the objective is to help them learn how to stand up and walk safely. With time, they will learn to walk confidently and even run. The fundamental truth is that **not** all infants and children need to learn how to become professional runners. In other words, is it a troublesome gap if professionals do not know the difference between lead and lags, or precedence diagramming techniques, or whether they know about Monte Carlo techniques or PERT?[42]

There are millions of professionals who fit into this category, who can immensely benefit from fundamental project management skills. How can we reach them and help them improve their performance, and consequently enhance organizational performance? This is the opportunity.

3.5 Opportunity 5: Simplified and Practical Project Management

The previous opportunity leads us to the principles of simplified and practical project management. We have already mentioned the words **simplified** and **practical** in many sections of this eBook.

Is project management simple? If project management is not simple, and this is our view, can project management be simplified, in comparison to what exists today? As we discussed in the first challenge in Chapter 2, project management is not simple. However, we are strong believers that a great deal of project management is common sense and it can be **simplified**.

We have already established that:

- Project management must be a facilitating process and not a bureaucratic process
- The project management system must address processes, people, and tools
- For project management to be effective, it must be institutionalized by blending training with establishing the organizational project management system
- Project management education and training must be practical and outcome-based, giving the learner a chance to apply the learning on real projects during the training and on the job

- Differentiation is required between managing small and simple projects, and larger and more complex projects. For small and simple projects, a practitioner may only need foundational learning without mandating or insisting on certification. On the other hand, for larger and more complex projects, effective management requires extensive professional development that incorporates solid certifications.

Section 2:
Project Management Methodology

4 Rationale and Model Perspectives

4.1 Model Rationale

Section 1 of this eBook focused on the growth of project management along with its associated challenges and opportunities. It serves as the foundation and justification for the methodology[43] and model that comprise the core of this work and eBook series.

Here, we shift into discussion of the driver for this methodology and elaborate on the reasoning that led to its development, the challenges that we are trying to respond to, and the opportunities that we are pursuing.

We developed the project management methodology in response to significant demand, even by experienced project managers, for simplified concepts leading to practical use of project management. The needs, as we understand them, are:

- A viable **project** life cycle methodological approach
- A methodology that is simpler than what international standards and publications provide
- Applicability in different sectors and industries (business domains)
- Availability of domain-specific sample projects and case studies, based on this methodology.

In other words, the project management learners want to understand the fundamental concepts of project management, and want to be able to use them effectively, and readily, on real projects.

4.2 A Story That Led To This Work

We were teaching a class attended by about 10 professionals. They were all from the same company, but from different functions, such as public relations, human resources, marketing, call center, finance, and an engineer working on a PhD. Their employer is a client who has hired us on numerous occasions to deliver a variety of services.

The class was an overview of project management, an introductory workshop.

During the class, the public relation person could not even comprehend the concept of budget or estimating because "*that is something handled by the account manager*"; she wanted us to explain to her the project life cycle that reflects her own function and her own practice.

The PhD candidate wanted a model to help him work on his thesis.

The human resource person and a couple of others did not appreciate it that we talked about scheduling in a project management class. Almost without exception, though, all had complained about unrealistic schedules, delays from the different stakeholders, failure to deliver on time: the very items they volunteered on the first day when asked for some of their project management challenges.

In short, the key issues were that project management seems too complex for them, and they wanted case studies and sample projects for each of their own disciplines. They felt that the only way to learn project management is through samples and examples that they could directly relate to.

On the evening of the course, we had dinner with two colleagues, both are international consultants in project management with years of experience, and we vented our frustrations on the lack of published practical examples that relate to a methodological approach. That evening, we decided to do something about it, so we started to formalize the idea for a series of books. That evening witnessed the birth of ***The Customizable and Adaptable Methodology for Managing Projects***™ and the decision to publish.

That experience was one of the driving factors for a series of books and eBooks, first ***The Inheritance,*** then ***Project Management for the Accidental Project Manager***, and what you are reading now.

4.3 The Challenges for Professionals

The major challenges faced by professionals like the group in the story above are:

1. They want to use a model that is relatively painless or at least simplified over what exists in the market. In other words, not everyone wanted to be a professional project manager or acquire a professional certification in project management.
2. While simplification is a crucial criterion, they did not want something that is so trivial that it is not effective.
3. They wanted samples that deals with real projects and not tasks disguised as projects.
4. They wanted a model that guides them at the various steps of the **project**.
5. They wanted a model that includes controls and not a continuous run through the **project** without checks and balances.
6. They wanted an approach that encourages them to use project management instead of fearing it.
7. Most importantly, they wanted to see **projects**' samples that are applicable to their own work environment.

Concisely, they wanted something that is customizable and adaptable to their own real lives. We hope and aspire that through the combination of this methodology, books, eBooks Series, knowledge portal[44], and blog[45], we can deliver on these expectations, and take a humble step in transforming these challenges into opportunities.

4.4 The Customizable and Adaptable Methodology for Managing Projects™

In response to what is described above and to convert theory into actions, we chose to develop The Customizable and Adaptable Methodology for Managing Projects™ (CAM^{2}P™)[46]. CAM^{2}P™ is a methodological approach that takes a holistic view of project's life and how to manage projects.

The primary driver for this model was our desire to deal with the entire set of challenges, resulting in, a comprehensive, simplified, practical, and straightforward methodology for the professional community. Its key characteristics needed to include:

- Suitability for both novices and experts
- Customization towards industries or organizations
- Adaptability for specific functions or project classifications.

A comment from a reader of a recent blog post where we were discussing the model, "*Should not all methodologies be flexible, and one can customize them*"? We agree, but this is not obvious for many practitioners and we wanted to emphasize that a methodology **must be** customizable and adaptable since one size **does not** fit all.

We believe that CAM²P™ is an approach that blends key elements from a waterfall and agile methodologies, since it is an adaptive model rather than a restrictive method. Its models can be adapted to facilitate organizational governance and control through a disciplined approach, while allowing the necessary flexibility to ensure effective project management.

4.5 Full Project Life Span Perspective

By emphasizing the word **project** in the numbered list above, we intend to emphasize that most of this work, unless otherwise noted, takes the perspective of the entire project life span and not a single stage[47], process, or function[48]. This is a vital distinction since many practitioners may only have exposure to a stage of a project. For a service provider, its whole project may be only a stage for a client, a project owner[49]. By way of example, for a construction contractor, projects are to construct facilities. On the other hand, for the facility (project) owner, construction is only a stage preceded by engineering design, which is in turn preceded by concept design and feasibility study.

In keeping with the above, note that the methodology presented in this eBook Series reflects a project life span that ranges from the 'idea statement' to 'project closure', providing the reader the full spectrum of a project's life.

4.6 Multiple Stakeholders

A common definition of a project's stakeholders is *everyone who is involved or impacted by the project*. Typically, 'involved' refers to those who has a role in the delivery of a project, which would include internal teams, vendors, and service providers, among others. '*Impacted*' refers to those who will be affected, positively or negatively, by the outcome of the project.

On most projects, the stakeholders will come from a variety of sources, internal or external. Therefore, it is common that most stakeholders do not have exposure to the whole project, or the full span of the project life[50].

Consequently, we take the approach that, project management, is about **'How to manage a project effectively, regardless of who does what'.** It is necessary to understand the whole picture of a project, regardless of who does what. This is especially beneficial to understand by professionals whose project management experience is limited to a project stage.

4.7 Idea Developer (Project Owner) Perspective

Further to the previous point, with stakeholders coming from different sources, then whose perspective do we consider here? The methodology reflects the perspective of the idea or project owner, with some exceptions, and we will note the exceptions where appropriate. In this context, the reference to idea developer and project owner is not specific to a person, rather, it is about the organization that is developing the project and will own its product.

4.8 Methodology versus Framework Perspective

The PMBOK® Guide document published by PMI, has become the "de-facto" global standard for project management. However, this book is not a 'methodology' but a 'framework', and requires a methodology to enable its effective use[51].

This is vital to stress here since we often receive requests from clients asking for a service that is based on the "PMI Methodology". We also see advertisements from training provider advertising a PMBOK® Guide related course as the "PMI Methodology". When we present that the PMBOK® Guide is a Framework and not a Methodology, some practitioners think that this is our opinion and we are criticizing the PMBOK® Guide and PMI. Well, here is a direct quotation from PMI: "*this standard is a guide rather than a specific methodology. One can use different methodologies and tools…to implement the project management framework.*" PMBOK® Guide, page 2. (PMI 2013)

Therefore, this work is about a practical methodology **that aligns with the PMBOK® Guide, and other global standards.**

5 Fundamental Concepts

5.1 Project Management Is a Disciplined Approach

Current practice, as outlined in the Challenges Chapter, ranges from rigid bureaucracy to laissez-faire absence of processes. What we advocate is that project management must be in accordance with a ***Disciplined Approach***. A ***Disciplined Approach*** incorporates a balanced set of decisions and control points along the project life span. These control points:

- Ensure alignment of the project business case to the organizational strategic direction
- Determine that the project is feasible and a priority
- Ensure alignment among executives, line management, the project team, and the various stakeholders
- Include checkpoints to validate that the project continues to progress in line with the stated objectives,
- Lead in combination to proper delivery of the project's product and formal closure.

In the absence of such control points, how can management know that its projects are moving in the right direction, and remain aligned throughout their life spans?

In addition to these control points, a logical and proper sequence is required for project development and delivery. This will allow the team to move from one project stage to another with the correct amount of detail and information, no more, no less.

5.2 Project Life Span and Stage Gates

What is the proper sequence of control points and other project events?

This sequence comprises all the control points and events of the project life span, which is the span of time starting with the project idea and ending with its closure. The project life span consists of various phases and stages, and the control points are the review events called stage gates[52], between the stages or even within a stage.

How many stages, or gates, are there? It depends!

It depends because the number of gates is a function of the project size, complexity, industry and other factors such as organizational maturity and culture. There are organizations with as few as three gates and others with twelve. Most have some number in between.

Which is better, to have a few or many gates?

Do more gates lead to increased bureaucracy because of too much control?

Not necessarily!

It is crucial to have gates for effective project management. It is acceptable to combine gates, thereby reducing the count, but the function of each gate must remain. The primary decision factor is driven by management philosophy. If executive management has a high threshold for risk, runs a highly empowered organization, and has sufficient maturity to accept a higher degree of uncertainty, then reducing and consolidating the number of gates can be considered. On the other hand, if organizational risk tolerance is low and uncertainty must be minimized, then more control points are necessary.

5.3 Importance of the Stage Gate Process

Within this methodology, stage gates are critical events throughout the project life span. Important factors for the gates are:

1. Experienced project management practitioners will agree that we do not want to implement a project before we develop the detailed plan. We do not want to perform detailed planning before we have alignment of the stakeholders on the requirements. Furthermore, before requirements we must have an approved concept.

In the early days of implementing this model at SUKAD, I had asked a team member to start working on a road show project where the company would be going around the region to highlight our services. We had talked about some possible dates but nothing else. Now my mistake was not to tell the team member we want to follow the methodology and treat this marketing work as a project.

A few days later, I was receiving emails on booking hotel rooms. There was no plan yet, no budget, no approval, and even the requirements were not yet fully defined.

The bottom line, if this happened in an organization that is a project management service provider; don't you think it is happening across too many companies and departments?

If there are no gates, then what prevents moving from one stage to another without properly completing the prior stage work? Even worse, what would prevent skipping a stage or two if there are no control points? Finally, what ensures that what is needed is what is being implemented?

2. The stage gates also play an essential role in organizational and project governance. This is especially pertinent as more and more projects are substantial investments; therefore, project governance becomes a keystone of corporate governance and the gates are essential for successful governance.
3. Another important factor is determining the right level of project investment for each stage of the project. In other words, is the right amount of effort to balance the effectiveness and efficiency of the application of project management in place? What we mean is that, in each stage, we want to do just the required work that is necessary to meet the organizational requirements for the scope of the stage, no more, no less. What we need is enough to make a proper decision on whether we should go to the next stage or not and continue with the project. Spending too much time and money into a stage, more than necessary, could be counter-productive, and we must avoid.

5.4 Is Not the Stage Gate Process A…

5.4.1. …Form of Risk Aversion

Consequently, one might ask, "*Is the stage gate process just a reflection of risk aversion?*"

No!

The fundamental point is that the stage gate process is necessary to ensure that the team is progressing toward the goals established for them, and it is necessary to check for direction periodically. As we move toward the goal, the team could be risk averse and follow a safe approach. The team could also be risk neutral or even adopt a 'risky' attitude. Therefore, risk tolerance and attitude is an informed choice and the team must be aware of the issues and risks that could face them. Having said that, we can say that the stage gate process helps us manage risks; there is a difference between risk management and risk aversion.

A main factor in the stage gate process, regardless of their number, is the requirement that executive management expedite the review process and have the team pass through the gates as efficiently as possible. If this does not happen, the unfortunate consequence is the trap of bureaucracy, which is essential to avoid.

In organizations with high level of project management maturity, can we eliminate gates? The answer does not vary: tolerance for more uncertainty permits reduction, but cannot recommend elimination. Some control must be maintained.

5.4.2. …A Killer of Innovation

Occasionally, we hear that the gates concept, a methodology, and even project management as a general concept, "*are killers of innovation*." The theme is: a disciplined approach is anti-innovation by imposing too much control.

We respectfully disagree!

Innovation versus Control

Once I was at dinner with a colleague, a program manager in the pharmaceuticals industry.

I asked: "*I am curious, how do you manage and control research projects in an industry where research and innovation are crucial?*"

He responded: "*Mounir, even in our industry, management and control are welcome concepts. We do allocate some percent of our research budget toward open research where we do not impose much control. However, for most other research there are 'control points' and even the researchers welcome that.*"

One aspect of the definition of a project is that it is 'unique'. This uniqueness opens for the team many opportunities for innovation, in all aspects of project management. There is room for innovation in planning, in management, in procurement and many other areas. The concepts of integrated teams and value improving practices are also examples of innovation in project management.

In every industry and every occupation, there are bureaucratic processes, routine, and even semi-robotic actions. On the other hand, there are opportunities for creative thinking, innovation, and excellence, without losing essential controls.

5.4.3. Case Study from a Mega Project

The following is a case study from a mega project that shows a high tolerance for risk using innovative approaches.

In his early career, the author was working on a mega project: developing and constructing a large-scale petrochemical plant on an island. The existing land was not enough for the plant so there was a need to expand the island. Another challenge, with the project being on a small island, was not enough space for laborers to work and house, compounded by insufficient qualified laborers and technicians in the area.

The solutions considered were:

1. Expand the island more than necessary to accommodate the large number of people to work effectively. Expensive solution and it did not solve finding the necessary resources, house them, and/or ferry them to the island.
2. Utilize pre-assembly and/or modular work, meaning do as much of the work as possible in fabrication yards or factories in different global locations but primarily in nearby countries. This allowed higher efficiency of the workforce, less reclamation for expanding the island, but additional shipping cost and risks.
3. The third option, the author's preference, was to build most of the plant on large ocean-going barges, transport them to the island, anchor them, build embankment around them, drain, fill the area around the barges with soil, and fill the barges with concrete to transform the barges into foundations.

Option 2 was the selected option, which resulted in about 200 modules each the size of a small 3- or 4-story building. The result: the project finished within the required time, slightly below budget and with an outstanding safety record. To clarify – we are not saying this was the only reason the project was successful, there were numerous other innovative and leading practices utilized on the project.

5.4.4. Closing Comment

The challenge is to differentiate between essential and necessary control versus excessive control; once again, project management is an art and a science. Project management has to be adaptive and innovative rather than restrictive and rigid.

6 Introducing the Model

6.1 Introduction

This chapter will lead the reader through a progressive explanation of the methodology. Understanding this chapter is critical, as it is the foundation for following Chapters and Parts of the Series.

Specific terms, such as phases, stages and gates, were selected for the various model components to match the focus or function of a specific component as much as possible. Some of these terms may be new to the reader while others may be familiar. Maintain your focus by understanding these terms as defined here and avoid confusion with their possible use elsewhere. In various work environments, different words may be used for these concepts; this is perfectly acceptable and expected.

6.2 Methodology Main Characteristics

What are the main characteristics of ***The Customizable and Adaptable Methodology for Managing Projects***™ **(CAM²P**™**)**?

1. It is a methodology for ***managing individual projects***.
2. The methodology takes a holistic view of a project; it is a *project life span* approach.
   a) The methodology *emphasizes the various aspects of project management such as phases, stages, and stage gates,* rather than the functions of project management, such as scope, time, risk…
   b) The project life span, as we present in this book, covers the whole project, *starting with the idea* for the project and ending with project closure; rather than a focus on processes within a stage.
3. The intention is for the methodology to be *simplified, practical, and systematic.* However, we must re-emphasize that simplified does not mean simple.
4. It emphasizes a *disciplined approach* to project management, balanced against the need for *flexibility*.
   a) Discipline is achieved via the distinct stages and stage gates
   b) Flexibility is achieved via the customizable and adaptable principles.
5. The stage gates, at least some of them, must be formal interim reviews that require acceptance of prior stage work, and authorization to proceed to the next stage.
6. Although the methodology includes a standard model, one size **does not** fit all, hence the name **Customizable** and **Adaptable** Methodology for Managing Projects™.
   a) **Customizable**: the flexibility to customize the methodology to different domains or even to a specific organization.

b) **Adaptable**: the flexibility to adapt the methodology for an organizational function, and/or per a pre-established project classification.

7. The methodology is generally aligned with popular global standards and project management frameworks, like the PMBOK® Guide but not limited to it.[53]

In summary, it is worth noting that the methodology described here is a common approach and many global organizations with mature project management systems use one form or another of the concepts within CAM²P™.[54] In other words, *it is composed of proven processes*. However, the concept and general approach are not yet widely known, especially to those new to project management.

6.2.1. What Is Not New

1) The concept of a project life span, also referred to as project life cycle, is an established and known concept.
2) The stage gate concept is also well established. Many global organizations use a stage gates process. In addition, PRINCE2™,[55] a project management method, uses stage gates.
3) Many organizations have developed similar methodologies as part of their project management system. In general, methodologies are custom fit to organizational requirements. This is one reason few project management methodologies are published and widely known[56].

6.2.2. What Is New

What then is new and unique?

1) ***Across industries***: as stated earlier, the principles of this methodology have been in practice in project management mature industries for a long time. However, most of the organizations in those industries do not publish their internal processes and any published information likely has limited circulation. Therefore, we are trying to transfer the expertise of mature project management industries across to other industries that are newer to project management, in a simplified and practical way.
2) ***Stage gates***: in this methodology, what is new is that we stress the stage gates as critical factors for enhancing project management performance across the entire life span.
3) ***Principles of customizing and adapting***: the third and most fundamental concept that we offer is that the methodology is fit for purpose instead of being rigid and therefore difficult to apply one model in all situations, domains, or project classifications. We advocate that there are universal principles in project management that cross industries. On the other hand, there are applications and approaches that are unique to an industry or project class that cannot be ignored.

4) ***Models***: a model is something that others can follow. Therefore, in this eBook series we present several project life span models are offered in Part IV for different application areas, customized from the standard model.
5) ***Strategic aspects***: will be discussed fully in Part II and in Part III. Three key examples emphasize strategic aspects:
   a) Incorporation of the project pre-launch stage as an essential part of the project life span
   b) Introduction of a stage gate focusing on the strategic alignment of the project to organizational objectives
   c) The dimensions of project close as part of project delivery
   d) The dimensions of project success, which also consider projects from a strategic perspective.
6) ***Project close as part of project delivery***: This strategic aspect merits further elaboration. Some organizations do not put enough emphasis on properly closing a project. However, by making project close a defined stage within project delivery and with a stage gate required for exit, project close will be difficult for organizations and their project managers to ignore.
7) ***Moving control baseline***: this is not a new concept but is poorly understood by many practitioners. The main point is: discussion of project control and baselines in most project management literature, including the PMBOK® Guide, often states and emphasizes that control is against the plan. Which plan is often not clear. Is it the project management plan? *Part III will cover this extensively.*

8) ***Operational readiness***: since project management personnel often do not carry out operation readiness activities, they are easily overlooked or the potential for full integration with the main implementation activities of a project is lost. *Refer to Part II for guidance.*
9) ***Dimensions of project success***: this is not a new concept either but is often another major exercise left to chance, like project close. At times, organizations settle for project completion as the only criterion for project success. Alternatively, they limit their focus to project management or product success. The model offers four dimensions, aligned with strategic aspects and the perspective of the project owner. *Refer to Part III for further discussion.*

6.3 The Model Brief Explanation

6.3.1. High Level View (Phases)

Figure 4: The Project Phases

The high-level view of the model starts with project phases.

We have already established that the model is a *project life span model,* which starts at the idea and finishes with project closure. In this series, we use the term phase to refer to a period along the project life span with a specific purpose and significant work output.

The standard model project has three phases[57], specifically, Project Concept Phase, Project Development Phase, and Project Delivery Phase.

6.3.1.1. Project Concept Phase

The project concept phase requires a team to understand and validate the idea for the project. It is the initial phase and sequentially includes documenting the *idea*, accepting the *idea*, validating the *idea*, and authorizing the *project*. Note the intentional shift from *idea* to *project*, which is to emphasize that only at the conclusion of this phase, is there a project authorized to proceed. Also, note that the project life span starts with the idea at the beginning of this phase, not at the authorization decision at its end of the phase.

6.3.1.2. Project Development Phase

The project development phase deals with developing the concept of the authorized project to ready it for the delivery phase. During this period the project manager, supported by the project team, identifies and documents the various project requirements, obtains alignment of stakeholders, develops the project management plan, and defines the project in sufficient detail to allow the proper and effective implementation in accordance with documented expectations and requirements.

6.3.1.3. Project Delivery Phase

The project delivery phase deals with delivering the project in accordance with a detailed plan. Project delivery encompasses implementation[58], operation readiness, and closing the project.

As part of the project delivery phase, project close is included since from the performing organization's perspective the project is 'not delivered' until the team properly closes it, even though a client may have already accepted the work.

6.3.2. From Phases to Stages

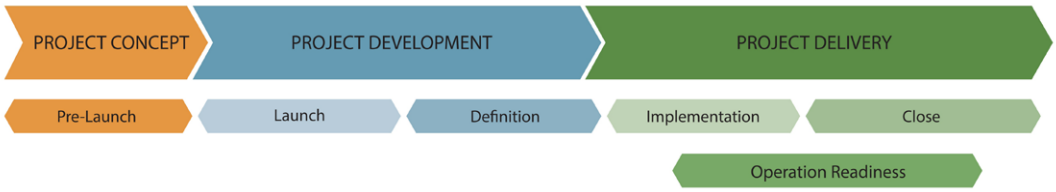


Figure 5: The Project Phases Split into Six Stages

The model now expands by one level of detail with the introduction of stages (see Figure 5).

The standard version of CAM²P™ consists of six stages.

We must stress, at this time, we are describing only the standard model. In Part III, we address customizing and adapting this methodology to different domains, resulting in different models, with different numbers of stages and gates, and a different graphical appearance for the model.

1. **Project Concept Phase**: the project pre-launch stage aligns with the project concept phase. The stage name 'pre-launch' was selected to emphasize that the project is neither authorized nor officially launched.

2. **Project Development Phase**: this phase is split into two distinct stages: project launch stage and project definition stage. In small projects, there could be justification to combine these two stages but in most projects, they are better split. The project launch stage identifies and documents the requirements and develops a project management plan. The project definition stage deals with detailed planning and develops the project detailed plan deliverable.
3. **Project Delivery Phase**: this phase comprises the implementation stage, the operation readiness stage, and the project close stage. During this phase, the project manager and team manage and control the project to deliver the 'work' defined during the project development phase. Later, during implementation, operations personnel[59] prepare to take over the custody of the product of the project from the project management team.

6.3.3. The Full Standard Model

Having defined the phases and stages, we now introduce the remaining components. The graphic in Figure 6 shows all of the components of the project life span model as a full view of the Customizable and Adaptable Methodology for Managing Projects™.

Each horizontal chevron represents a stage, or sub-stage, and the text within it describes the focus for that stage. The upward arrows are the model's main stage deliverables. The shapes with numbers along the top are the symbols for stage gates, which appear at various points along the life span.

In summary, the main points of the CAM²P™ model are:

1. We take the view that the project life span starts with the idea. However, we do recognize that, in some literature[60], the project starts with a Charter[61], after the feasibility study.
2. The standard model, as shown here, includes six stages and eight gates. As we explained before, for certain domains or projects, the count can be different.
3. The methodology is flexible for making adjustments based on organizational requirements and project classification.
4. The methodology includes a dedicated stage for project close due to its importance but place that stage as part of the project delivery phase to ensure that it is ignored.

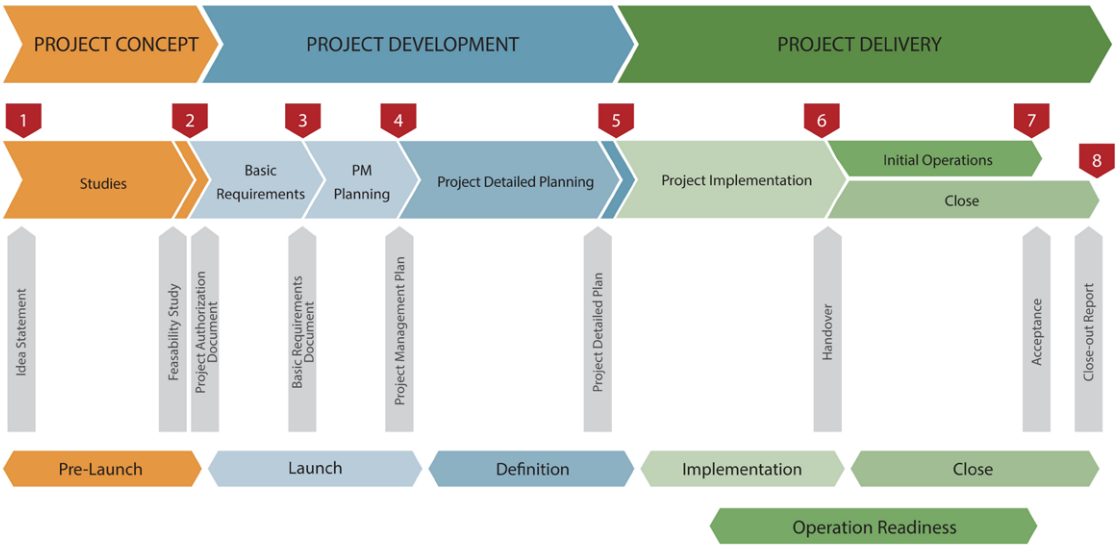


Figure 6: The Standard CAM2P™ Model

7 Alignment to Global Standards

7.1 Proven Practices

The Customizable and Adaptable Methodology for Managing Projects™ (CAM²P™) is a project management methodology that aligns with global standards. Most of what we present in this Series, in one form or another, are proven leading practices that numerous global conglomerates and even small and medium organizations are using. Our focus is not re-inventing the wheel; we are improving it by adding features that are not common practices.

This chapter presents the CAM²P™ alignment to global standards as a general topic. Chapter 8 focuses the discussion on the link between CAM²P™ and PMBOK® Guide.

7.2 Professional Associations

There are various professional associations advocating project management around the world; these are the most prominent globally with a general focus on project management[62]:

- The International Project Management Association (IPMA®)
- The Project Management Institute (PMI®).

In addition, there are initiatives like the Global Alliance for Project Performance Standards (GAPPS) that also focus on project and program management. GAPPS is not as well-known as the others.

In addition to these global associations there are others well known associations in many countries around the world.[63] There are also countries' chapters of global organizations.

Further, there are many other associations that specialize in specific topic, or function, of project management, such as the Association for the Advancement of Cost Engineers International (cost and schedule), SAVE International (value management) and the Royal Institute of Chartered Surveyors.

Each of these associations is active in advocating professional project management practices in their own way, and each is known for a certain area of focus. For example, the IPMA® focus is project management competence. PMI's PMBOK® Guide deals mostly with project management processes spread across knowledge areas.

Finally, ISO 21500 Standard is the newest official standard and includes some key concepts from several associations.

Our position is that CAM²P™ **generally** aligns with various standards. We use **generally** to mean that there are no fundamental contradictions or conflicts between our model and these standards although we are not 100% in alignment with every detail they contain. We see CAM²P™ as one part of a holistic system that an organization needs, with content from the various standards as complementary parts of the system.

7.3 A Common Gap in Project Management

One of the main gaps in project management practice today is the belief by a few that a single standard or platform is enough.[64]

One example, SUKAD was contracted to present a course on program management. The course outlines followed PMI's program management standard and about 50% of the content of the course was in line with it. We did not think that standard was adequate for proper coverage of program management, so we added the rest of the content from our own work and the work of other program management global leaders, and included case studies. The client objected that we added materials from outside PMI. When we explained that in our professional opinion the PMI program management standard was not enough to present an excellent learning program, the client was not receptive and took our comment as a criticism of PMI.[65] We have had numerous other situations in which the recipient resisted accepting additional knowledge or resources.

7.4 Integration of CAM²P™ With Global Standards

CAM²P™ is a methodology, yet it is not enough to manage projects effectively if we use it independently of other resources, such as the PMBOK® Guide. The same is true in reverse. The PMBOK® Guide is not enough on its own; it needs a methodology. Similarly, the standards from other associations, such as IPMA Competence Baseline (ICB), are also important.

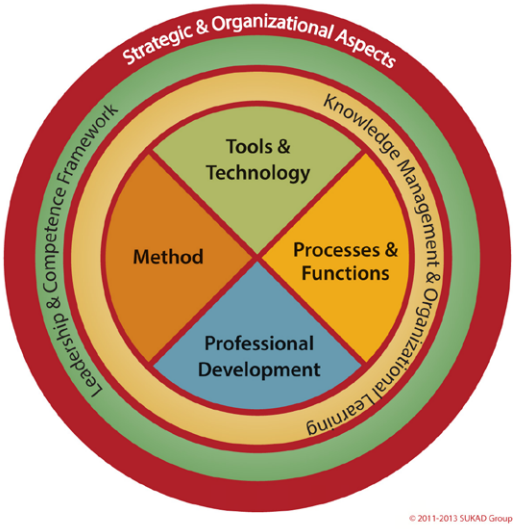


Figure 7: The SUKAD 7Es™ Seven Elements of Project Management Maturity™

To manage projects effectively and consistently, an organization needs a comprehensive organizational project management system. The system includes various elements, and Figure 7 shows the SUKAD Seven Elements of Maturity[66]. Explaining the details of the seven elements is outside the scope of this Series; we only provide a brief outline here since this explanation shows how CAM²P™ integrates with the global standards.

7.5 The Seven Elements

7.5.1. Strategic Element

- The outer circle represents the strategic and organizational aspects, which include governance, policies, and organizational approach for managing projects.

7.5.2. Fundamental Elements

Moving from the outer circle (strategic element) toward the center of the graph is a presentation of the Fundamental Elements. These are what we consider the absolute minimum organizational system requirement to manage projects.

- Method: representing any method or a full project management methodology; this can be any methodology, including CAM²P™.
- The processes and functions element addresses the need for project management processes and project management functions; this would be the PMI Framework as outlined in the PMBOK® Guide.
- Tools and technology element include software applications, specific models, flowcharts, mind maps, and procedures. We are not aware of any specific leading standard for this element but there are numerous resources.
- A professional development program at all levels of the organization, to provide the essential knowledge foundation for managing projects. This would include a career management framework. PMI and IPMA both have standards that would support this element, in addition to other associations.

7.5.3. Differentiating Element

The differentiating elements are the two circles between strategic and fundamental elements. These are the elements, which would help an organization's drive toward a higher level of project management maturity.

- Knowledge management and organizational learning would be vital for enhancing performance across an organization functions and projects.
- Finally, a leadership and competence framework would be essential element and an excellent source here would be IPMA Competence Baseline (ICB).[67]

7.5.4. Further Details

In addition to the above elements, the elaboration of each of these elements can use one of the numerous functions' specific standards that professional associations publish. For example, for cost engineering processes, a good source is the Association for the Advancement of Cost Engineers International. For value engineering, there is SAVE International. For scheduling and estimating both PMI and AACE have standards. GAPPS also offer standards for project and program management that can integrate with the other standards and resources that we present here.

7.6 Closing Comment

To repeat what we have stressed already CAM²P™ is a methodology, yet it is not enough to manage projects effectively if we use it independently of other resources. CAM2P™ is only one of the seven elements in our organizational system. The PMBOK® Guide, ICB, and other standards are equally important and each has an essential role in managing projects.

Therefore, CAM²P™ is not to criticize, contradict, or replace the substantial knowledge base that exists today whether that knowledge is from professional associations, organizations, universities, or thought leaders. Our aim and aspiration is for CAM²P™ to be a significant value addition to the emerging field of applied project management, where CAM2P™ would be the methodological frame and the other standards would be the vital pieces to complete our project management puzzle.

8 Alignment to PMBOK® Guide

8.1 CAM²P™ Link to PMBOK® Guide

A marketplace reality is that the PMBOK® Guide is extremely popular, although it is not the only project management guide available. A large number of practitioners use it in their work. Professionals use it to prepare for a PMI certifications. Since it is the most common reference, it is highly valuable and has numerous good elements, but like most standards documents, it does not cover everything. It has gaps, inconsistencies, and missing elements whether by design or oversight. Because of the importance and widespread use of the PMBOK® Guide, it is necessary to address how it relates to the CAM²P™ methodology.

During various workshops and interactions with professionals, some who did not initially understand what we were presenting (often those who jump to conclusions before listening) assumed that our intention with CAM²P™ was to criticize or replace the PMBOK® Guide. This is not the case and as we explained in the previous chapter, one of the reasons ***CAM²P™ exists is to supplement the PMBOK® Guide, not replace it!***

The PMBOK® Guide does an excellent job of explaining the **processes and knowledge areas** of project management and this is why it is one of the fundamental elements in our maturity model.[68] However, the guide does not emphasize or even adequately describe the project life span and stage gate concepts, although the PMBOK does mention them.

8.2 Alignment to PMBOK® Guide

Why are we dedicating a chapter on the alignment to PMI's PMBOK® Guide?

1. The author has extensive experience with the PMBOK® Guide, PMI standards, and PMI as an organization. He volunteered for PMI various programs across ten years. He has been leading classes related to the PMBOK® Guide for over ten years.
2. Although the author is familiar with the works of some of the other associations, he does not have expert-level knowledge of their standards, especially those covering specific functions.
3. Because of PMI's marketplace position, we developed the CAM²P™ model to align to the PMBOK® Guide, rather than to the other standards. As previously stated, we aspire for CAM2P™ to be a leading methodology for use with the PMBOK® Guide.

We recognize that the PMBOK® Guide has become a de facto global project management standard, and we use it as a framework as it is intended. In addition, we incorporated these considerations into the design of CAM²P™:

1. One of the main objectives concerning alignment to the standard is our desire to offer the global professional community a methodology that links to the most popular framework while simultaneously simplifying its application. This is a critical success factor for this methodology and eBook Series, since we want to help in the growth of the emerging profession and expand the use of global standards through a practical and systematic approach.
2. We did not constrain ourselves to 100% compliance with the PMBOK® Guide and its terminology. However, we did not deviate 'just to be different'; we did so only where we recognized an opportunity for improved clarity and coverage. The user has a choice to use CAM²P™ terminology, PMBOK terminology, or align to their organizational terminology.
3. The PMBOK® Guide offers common practices. An objective of this Series is a systematic approach that applies these common practices in a structured manner and will result immediately in a higher level of practice and a move towards pervasive and effective leading practices.
4. We did not limit ourselves to alignment with the PMBOK® Guide. The CAM²P™ methodology is designed to align with the intent and approaches of other associations and their proven practices, as each has its own strengths and essential elements.
5. The SUKAD maturity model serves as a project management organizational system incorporating CAM²P™ as its methodology base and blends in the IPMA Competence Baseline and the PMBOK® Guide as interlocking components.

8.3 How CAM2P™ Aligns to PMBOK®

A superficial review could lead to the conclusion that the CAM²P™ model does not comply with PMI, particularly with respect to terminology. However, we are convinced that those who ***properly*** understand the PMBOK® Guide will be able to determine that the model is indeed in alignment.

We emphasize ***properly*** because some who study the PMBOK® Guide misunderstand it and confuse the project life span (cycle) with the process groups, in addition to other items[69]. Further, the PMBOK® Guide emphasizes knowledge areas and processes at the expense of the concept of a project life cycle or the need for a methodological approach for the whole project. Therefore, it is easy for professionals to confuse *implementation stage* with *execution process group* and *project close stage* with *closing process group*.

Specific points of alignment include:

1. The PMBOK® Guide clearly outlines that projects follow a project life cycle that starts with an idea, and then proceeds through a few phases on the way to closure[70]. CAM²P™ is a project life cycle based methodology that encompasses this span.
2. PMBOK® Guide defines a phase as a time span on the project life cycle where the completion of substantial deliverable(s) takes place. CAM²P™ says the same thing.
3. PMBOK® Guide discusses the need for interim reviews between phases; CAM²P™ defines these as stage gates. The prominence of gates and reviews has fluctuated over time in PMI literature.
4. The PMBOK® Guide clearly states that within every phase there are processes at work, these are the process groups. We are in total agreement and this is discussed in more detail below[71].
5. The PMBOK® Guide presents the need to have project management involvement early in the project, even before the charter. We strongly agree and emphasize this point in CAM²P™. We stress the need to have project management involved immediately after stage gate one (SG1), which is the approval of the Idea Statement.

6. The PMBOK® Guide advocates the need for stakeholder involvement[72]. We stress the same; one of the main objectives of the stage gate process is to formalize the alignment of stakeholders to ensure the project manager does not miss their expectations and requirements. Further, stage gate 3 is crucial here since its purpose is to ensure stakeholders alignment before development of the project management plan.
7. The PMBOK® Guide emphasizes the needs for proper closure, lessons learned, and capture of corporate knowledge; we echo this emphasis.

These points cover the main concepts and the principal alignments. However, alignment is not limited to these topics but can be found in the more detailed treatment of the methodology throughout this eBook Series.

8.4 Where Does the Model Deviate

We stated earlier that the model was **not** constrained to the PMBOK® Guide. We also demonstrated that, in principle, the CAM²P™ methodology is in alignment with the PMBOK® Guide. How do they differ?

- Some tactical choices as found in the details spread across the eBook Series
- Terminology choices, as appropriate and necessary
- Additional concepts included that are not found in the PMBOK® Guide, or not adequately addressed.[73] Detailed discussion can be found in subsequent Parts of the Series.

8.4.1. Terminology Differences

Some terminology differences have been introduced above and are explained in more detail here. One of the main factors that led us to use different terminology is the fact that some terms used in the PMBOK® Guide, work well for experienced project managers, but confuse newcomers to project management. For example:

- The *Charter* authorizes a ***project or phase***
- *Initiating process group* initiates a ***project or a phase***
- *Closing process group* closes the ***project or phase***.

Inexperienced readers can have difficulty differentiating if or when the PMBOK is discussing a project or a phase.

To avoid such confusion, the CAM²P™ methodology definitions include:

1. *Project life span* instead of *project life cycle*; *project life cycle* is an acceptable generic term but *project life span* is more appropriate for the project time span. We realize this is a debatable topic.
2. *Project management function,* instead of *knowledge area;* primarily to help the reader avoid potential confusion with the ten knowledge areas of the PMBOK® Guide[74]. In some domains, there are additional functions[75] that are not included in the Guide.
3. *Project authorization document,* instead of *charter* to avoid confusion between a project and a phase. In other words, **project** authorization clearly refers to authorizing the **project;** however, when the PMBOK® Guide states, "The project charter authorizes the **project or phase**" it creates an ambiguity.
4. *Implementation,* instead of *execution*, primarily to differentiate between **implementation as a stage** and **execution as a process group**.
5. *Project detailed plan,* instead of the PMBOK® Guide *project management plan*.
6. We differentiate between a phase and a stage whereas the PMBOK® Guide includes phases only.

8.4.2. Other Fundamental Differences

1. The CAM²P™ methodology emphasizes a strong stage gate process as an essential control feature; this lacks emphasis in the PMBOK® Guide, as evidenced by the absence of gates in any figures in the PMBOK® Guide. Further, in the PMBOK® Guide the stage gates are implied in the initiating and closing process groups. In other words, initiating or closing a stage requires a decision. A stage gate is where major decisions are made.
2. The pre-launch stage: The PMBOK® Guide states that the early pre-charter project effort is usually outside the project life cycle. Although the PMBOK® Guide states that the project manager should provide input during the pre-charter work, it defines the project life cycle from charter to closure.
3. PMBOK® Guide phases: this guide does not name the phases. The CAM²P™ names were selected to reflect the scope of each phase or stage. As previously noted, alternative names are acceptable.
4. PMBOK® Guide uses the term Charter to refer to the document that authorizes a project or phase (PMBOK Guide 2008).[76] To avoid confusion, in CAM²P™ the document that authorizes the **project** a name that is unambiguous: **Project** Authorization Document (PAD). Further, through the project life span, phase and stage authorizations take place at stage gates, where executive management grants approval and is in effect authorizing the next stage.

5. One of the main differences between CAM²P™ and the PMBOK® Guide is the use of the term *project management plan*. What the Guide calls a *project management plan and project documents*, CAM²P™ splits into two documents produced in two different stages: (a) the *project management plan* developed during the project launch stage and (b) the *project detailed plan* developed during the definition stage. This topic is explored further in a following subsection and in Part II of the Series.
6. Another difference deals with the confusion between *project life span* and *process groups*. Although the PMBOK® Guide clearly states that they are **not** the same, a large percentage of PMP credential holders and other practitioners confuse them. Often the answer to naming the stages of the project life cycle is, "initiate, plan, execute, monitor and control, and close", or sometimes just "initiate, plan, execute and close".[77] The following subsection provides a deeper investigation of this topic.

7. This last item is in comparison to the fifth edition of the PMBOK® Guide. Chapter 2 now include a definition for project success. (PMBOK Guide 2013) In our professional opinion the new PMBOK® definition lack clarity, adds confusion, and we believe it has significant flaws that contradict with other sections of the guide, specifically project definition. This Series is not about the PMBOK but alignment with CAM²P™ and on the topic of project success – we do not align. For further reading, please refer to an article by the author on this subject.[78]

8.5 Process Groups versus Project Life Span

The difference between process groups and project life span is one of the most common topics where practitioners misunderstand in the PMBOK® Guide. Understanding this difference is crucial to improving the reader's professional practice and their comprehension of this Series. Because this is a vital matter – we do reference this topic frequently throughout the Series.

8.5.1. Overview of the Confusion

Many readers of this book will be project management professionals (PMP® credential holders) or preparing for it. Therefore, we need to include the following discussion and must stress a crucial concept at this point.

It is common that some practitioners confuse the process groups with the project phases or stages. In other words, they think the process groups are project phases. The confusion is due one or both of the following reasons: either a misunderstanding of the PMBOK® Guide, or the practice in some organizations that label their project phases with terms similar if not identical to the process groups' names.

The CAM²P™ stages and phases are not the PMBOK® Guide's process groups, and it is important not to confuse these two different concepts.

- The project life span comprises **time dependent** sequential phases and stages that happen one after the other with some degree of overlap.
- The PMBOK® Guide focus is on the project management processes, and the five process groups. The five process groups are initiating, planning, executing, monitoring & controlling, and closing.

What is misunderstood or forgotten is that within each of the project life span stages, the project management team will apply the PMBOK® Guide process groups; **the processes repeat**.

Two examples:

1. Initiation in the PMBOK® Guide applies to every stage. The charter is an output of the initiating process group. The charter is the document that **authorizes the project or the stage**. This last statement infers that there is a charter for every stage. Sine we initiate the project then there must be a charter for the overall project as well. In other words, if there are six stages on a project life span then there must be seven charters, one for each stage and one for the project. If there are four stages then there are five charters. Alternatively, if a single-stage project do exists then there will be one charter. As we mentioned earlier, the fifth edition of the PMBOK might be changing the definition of the charter but the wording used is somewhat ambiguous to conclude whether there is a change or not.

We ask the reader patience if you think we are over emphasizing this point but based on our experience, it is necessary.

One charter OK, but five or seven charters this is not logical.

We realize the confusion, and many practitioners think that there is only one charter. However, this is per the PMBOK® Guide and not an opinion.

To avoid such confusion, the CAM²P™ initiation of a project is referred to as the project pre-launch stage, which produces the *project authorization document* (PAD) in addition to the feasibility study. In other words, there is one overall project authorization at stage gate 2. For subsequent stages, there is stage authorization, which takes place at the stage gate approval. We have known organizations that would call this stage initiation document.

2. A project implementation stage is not the same as the executing group, although some organizations label a stage 'project execution'. To stress this point, if there is a ***project execution stage***, then we need to *initiate* this stage, *plan* the stage, and ***execute*** the stage, *close* the stage when done, and *monitor and control* throughout the stage.

8.5.2. Project Integration

In the PMBOK® Guide, the project management plan places integration at the start of the planning process group. The project management plan is progressively elaborated throughout the planning processes, moving from one knowledge area to another.

Then is integration for the project or the stage?

According to the PMBOK® Guide, integration applies to both since the project management plan could be for a stage or the full project.

Another interpretation is that the project management plan, from the 'project integration management' knowledge area, is for the whole project, but the planning processes in the other knowledge areas are for the detailed plan of each phase.

Clearly, this is confusing.

CAM²P™ resolves this in a simple way.

The project management plan addresses how to manage the **project**, in addition to how to define, control, get ready for operation, and close the **project**. This is a plan for the **project**[79] that helps the team think about the whole project and guide them through the stages. Supplementing this is a **project** detailed plan for the whole project. Further, within each stage, there will be a **stage** detailed plan, where applicable.

8.5.3. How Many Plans

So does this add up to three plans?

Yes, actually on large projects there are more than three plans. The performing organization (project owner) should have its own project management plan and its own project detailed plan. On such projects, the performing organization is likely to outsource the work for some of the stages. The outsourcing service providers will have their own plans, more detailed than those developed by the client's organization.

Consider the following graphical presentation to elaborate this concept, with a focus on the project perspective and phase perspective.

8.6 Project Perspective

8.6.1. Initiating

Figure 8: Project Life Span with Project Initiation

Figure 8 shows the project stages as we have outlined them in Chapter 6. The six stages are represented sequentially for easier reference, although CAM²P™ anticipates overlaps.

This illustration shows an 'I' in the oval at the end of pre-launch stage indicating **project initiation**, using the PMBOK® Guide terminology and approach.

In CAM²P™, the initiation starts with the idea statement approval at stage gate 1, so the "I" will be further to the left.

8.6.2. Planning

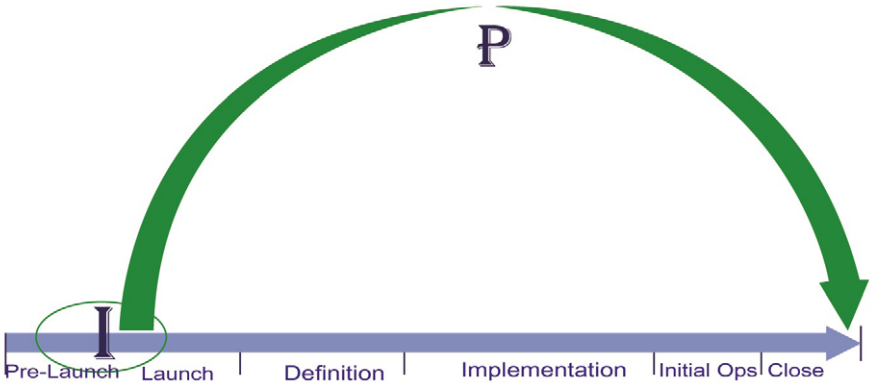


Figure 9: Project Life Span with Project Planning

After we initiate the **project**, it is time to plan the **project**, specifically **the whole project**. Planning is what we represent with the arch and the letter 'P', in Figure 9.

In CAM²P™, this is what we call the project management plan. This plan takes the perspective of the whole project, and not a single stage; notice the arch stretches to the very end.

So far, there is general alignment with the PMBOK® Guide, Initiation, and Planning process groups (for the project perspective). In other words, the team initiates the project, and plans the project.

8.6.3. Executing and Monitoring & Controlling

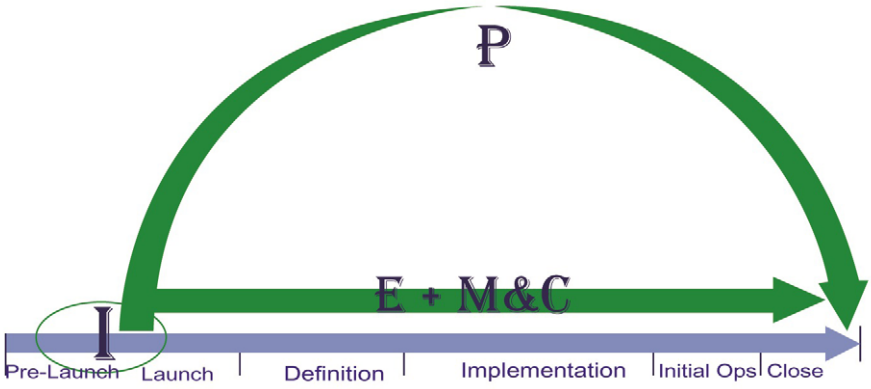


Figure 10: With Execution and Monitoring & Controlling

In Figure 10, we add the executing and monitoring & controlling process groups, which we present via the horizontal arrow with the letters 'E + M&C'. One clarification: notice 'execute the project' in this image is across all the other stages, the horizontal arrow spanning to the end. What we are saying here is that **executing the project** ***is about going through all the stages***. In other words, at the project level, the 'execute' function applies to the launch, definition, and all other stages, all the way to closure.

The key point here is that so far everything in this subsection is about the project and not individual stages. Therefore, the concept of the PMBOK® Guide process groups aligns perfectly!

Next is the stage perspective.

8.7 Stage Perspective

The PMBOK® Guide clearly states that ***the process groups occur in every phase, and they are not phases themselves***. This statement is worth repeating because of its importance.

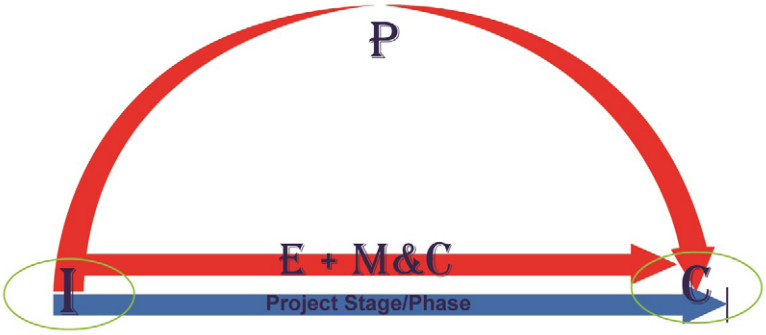


Figure 11: Initiate, Plan, Execute, Monitor & Control, Close (The Stage Perspective)

In Figure 11, the image is almost identical but the focus shifts to the stage perspective. In other words: initiating the stage, planning the stage, executing, monitoring and controlling, then closing the stage.

To summarize, the process groups apply to the project perspective and the stage perspective.

8.8 Project and Stage Perspectives

Figure 12 combines the project and stage perspectives. The items represented by the smaller red arches and text reflect the stage perspective, whereas the large font and green color represent the project perspective.

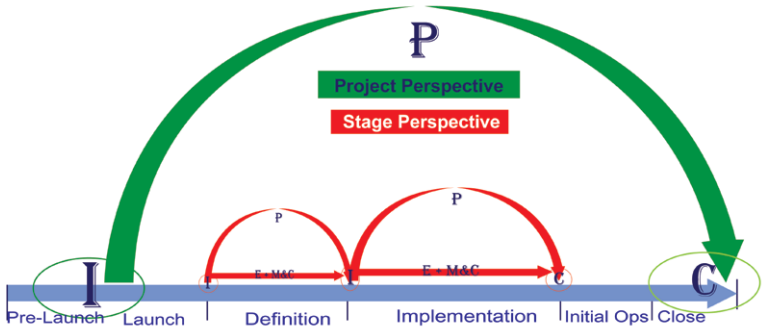


Figure 12: Project Life Span + Process Groups

Notice that we have an 'I' in the small oval at the start of definition and at the start of the implementation stage, which indicates initiating the stage. Then there are the small arch and letter 'P', indicating planning the stage. Further there is the horizontal arrow with the letter 'E + M&C', indicating executing the stage and monitoring and controlling during the stage. Then there is the 'C' in the small oval indicting the closure of the stage; the 'C' in the large green oval is for the project.

Just to avoid confusion and crowding the graphics, the process groups for the other stages, such as pre-launch, launch, operation readiness, and close are not shown, but apply to each per the methodology.

8.9 Can We Combine

Can a single set of process groups be used, in other words, merge the two perspectives, project and stage, and treat them as one?

In practical terms, this merger cannot take place. It is possible in the rare case of a single stage project.

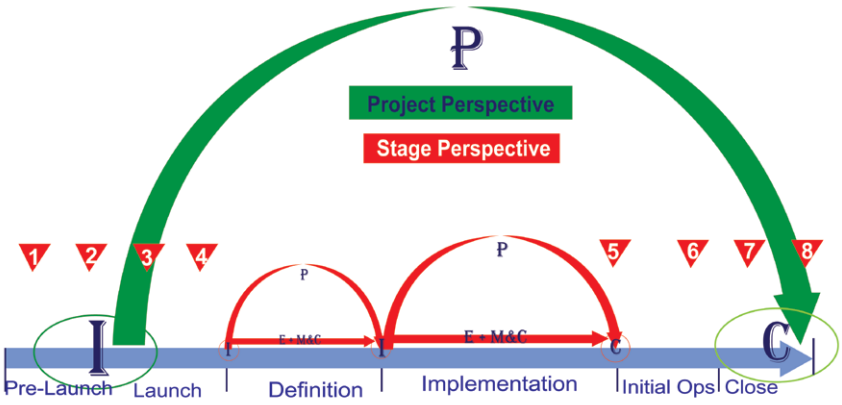


Figure 13: Project and Stages Perspectives with the stage gates

Figure 13 is similar to the previous one but adds the CAM²P™ stage gates along the project life span.

8.10 Conclusion

We trust that we have been able to demonstrate how the *Customizable and Adaptable Methodology for Managing Projects*™ is in line with the PMI Framework, although not constrained by it. We also trust that we were able to explain the main differences and clarify areas of ambiguity and confusion concerning the PMI Framework.

We close with two graphics, to represent the same concept in a different way. Figure 14 summarizes the mapping of the process groups to the project life span. In this case we used a generic project life span, and not CAM²P™, to stress that the concept of the process groups repeating is applicable to any systematic – project life span approach.

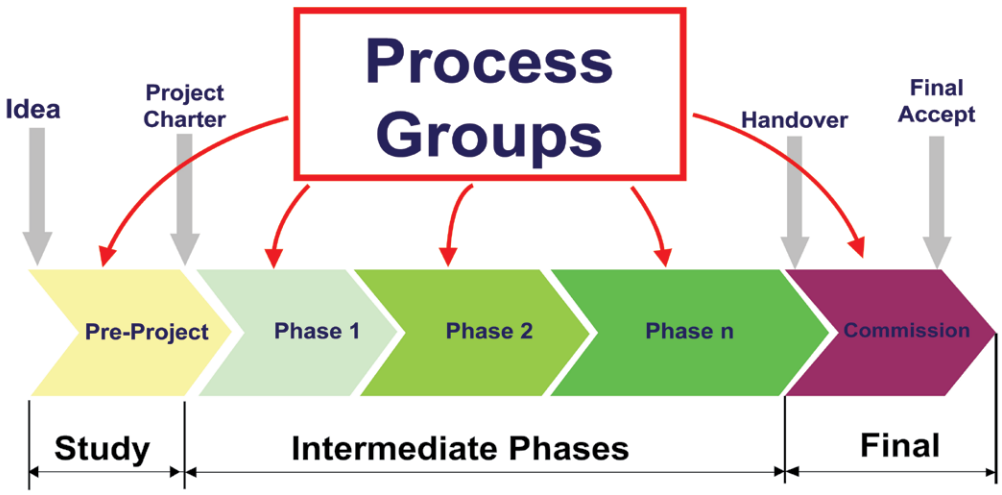


Figure 14: Mapping Process Groups to a Project Life Span

In a similar fashion, Figure 15[80] represents this mapping a different way also using a different project life span than the CAM²P™ standard model.

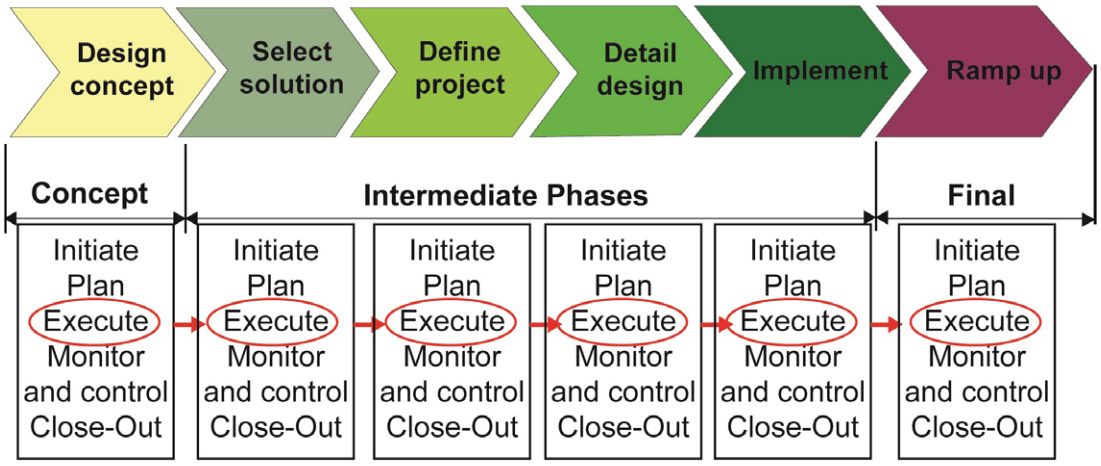


Figure 15: Mapping the Process Groups over a Project Life Span (Another View)

Notice the ovals around 'Execute', which are connected to reflect the earlier explanation that **project execution** is continues along the project life span.

9 Appendix A: List of Acronyms

AACE®	The Association for the Advancement of Cost Engineers, International AACE® International
ANSI	American National Standards Institute
BP	Best Practices
BRD	Basic Requirements Document
CAM²P™	Customizable and Adaptable Methodology for Managing Projects™
COR	Close Out Report
FS	Feasibility Study
ICB	IPMA Competence Baseline
IPMA®	International Project Management Association
NGO	Non-governmental organization
PAD	Project Authorization Document
PBS	Project Breakdown Structure
PDP	Project Detailed Plan
PLC	Project Life Cycle / Product Life Cycle
PLS	Project Life Span

PM	Project Management, Project Manager
PM Plan	Project Management Plan
PMBOK®	A Guide to the Project Management Body of Knowledge, PMBOK® Guide
PMI	Project Management Institute
PMP	Project Management Plan but prefer to use PM Plan instead
PMP®	Project Management Professional
PMT	Project Management Team
RFP	Request for Proposal
SG	Stage Gate
SOW	Scope of Work / Statement of Work
SUKAD	SUKAD stands for Success Uniqueness Knowledge Attitude Development and is the name of the company co-founded by the author.
VIP	Value Improving Practices
WBS	Work Breakdown Structure

10 Appendix B: Glossary of Terms

Term	Acronym	Description
Basic Requirements Document	BRD	The basic requirements document is the project document that outlines the key requirements for the project, as the project manager and team understand them.
Best Practices	BP	See Value Improving Practices
Challenged Project		A challenged project is one that is completed but possibly missing one or more objectives and/or possibly experienced issues in some of the project performance metrics, such as cost or schedule.
Control Reference Points	CRP	These are points across the project life span that we use for the purpose of project control and measuring project success. These would be the key stage deliverables; for example PAD, PM Plan, and PDP.
Deliverable		A defined work item (scope) that when finished, is delivered for review/ inspection and approval at a stage gate.
Failed Project		A failed project is one that the organization terminates before completion, or is completed with major issues; in other words, it did not achieve the original objectives.
Gate		See stage gate.
Law of Diminishing Return		Also called principle of diminishing marginal productivity, economic law stating that if one input in the production of a commodity is increased while all other inputs are held fixed, a point will eventually be reached at which additions of the input yield progressively smaller, or diminishing, increases in output. (Encyclopedia Britannica n.d.)[81]
Management		In various places in the Series we use the term 'management', unless noted otherwise, this refer to executive management which could be mean a single person, such as owner, CEO, general manager, project sponsor. Alternatively, this term can be a reference to an executive committee, steering committed, board of directors, or any other formal management group.
Method		"A particular procedure for accomplishing or approaching something, especially a systematic or established one."[82]
Methodology		"A system of methods used in a particular area of study or activity"[83]
One Size Fits All		In the context of this Series, this term is not limited to size. We use the term to represent the differences between projects in term of size, complexity, domain, function, or types of organizations involved in the projects. In other words, projects might share management processes but one cannot use the same method for all types of projects.
Phase		One often use this term interchangeably with stage, but in this Series and the CAM²P™ Model, we differentiate between these terms and use 'phase' to indicate the three principal phases of a project – Concept, Development and Delivery.

Term	Acronym	Description
Pilot (Period)		Pilot, in the context of the methodology and Series, mean experimental period, where the project could start with a trial period. For example, an organization is embarking on changing their performance management system. After the completed design of the system, they might chose to roll it out in one department before all others. This is done to capture the learning in a control environment.
Product		In the context of this Series, unless otherwise noted, the word product, especially the project's product, refers to final output of the project delivery, such as an industrial facility, hospital, book, software application, or a new organizational system.
Project Authorization Document	PAD	This is the document to announce management official authorization to launch the project.
Project Breakdown Structure	PBS	Project breakdown structure is similar to the work breakdown structure, except the WBS covers scope items **only**, and the PBS incorporates project management effort and other non-scope considerations.
Project Detailed Plan	PDP	The project detailed plan is the output of the project definition stage and includes details about the project various components, such as scope, quality, time, risk.
Project Life Cycle	PLC	Equivalent to PLS (Project Life Span).
Project Life Span	PLS	The project life span is the sequential time line of the project phases and stages from idea to closure.

Term	Acronym	Description
Project Management Team	PMT	The project management team is the team supporting the project manager in managing the project and includes cost, schedule, quality personnel, and others as necessary (safety, construction, logistics…). The project management team includes the project manager.
Project Owner		This term refers to the organization that is developing and will own the product of the project.
Project Team		The project team includes the technical (or functional) professionals who will perform the detailed work of the project (designers, engineers, specialists…). The project team in the wider context includes the project manager and other project management team members.
Project's Product		PMBOK® Guide defines the output of the project as a product, service, or result. A product being a physical facility (building, refinery); a service would be a project that deliver a service (deliver training, consultancy); a result is the output of research and development that other could use to deliver a service or further research and development. In this Series we use this term often generically to refer to product, service, or result.
Responsibility Assignment Matrix	RAM	Defines and clarifies the roles and responsibilities of the people involved on the project.
Stage		A defined time span and part of the project life span that usually ends with the production of vital deliverables. In the generic CAM^{2}P™ Model, there are six stages: pre-launch, launch, definition, implementation, operation readiness, close. *Refer to Chapter 6.*
Stage Gate	SG	Equivalent to the terms interim review, control point, or decision point. Each stage gate occurs at the end of a project stage. In the standard CAM^{2}P™ Model, there are eight gates. *Refer to Chapter 6.*
SUKAD Model		The name used alternatively to refer to the SUKAD methodology for managing projects, CAM^{2}P™.
SUKAD Way™, The		The name used to refer to the SUKAD approach for managing projects, encompassing the SUKAD Model and the other products from its research and development program, including *The Seven Elements of Project Management Maturity.*
Value Improving Practices	VIP	Value Improving Practices deal with practices that are not commonly used and if organizations use them properly, they can expect significant performance improvement in the areas of safety, quality, cost, schedule, performance, among other areas. VIP should be limited in number since they are often differentiating factors between typical performance and best in class performance.
Work Breakdown Structure	WBS	Work Breakdown Structure is the logical breakdown of the project scope into smaller components. The breakdown is necessary to facilitate planning, estimating of cost and time, and for control of the project.
Work Package		A work package is a WBS element that is at the bottom of a given branch, lowest level. Since it is a WBS element then it is a deliverable, a specific scope of work.

11 Appendix C: Project Management Associations (Partial)

Acronym	Association Name	Website
AACE®	The Association for the Advancement of Cost Engineers International (AACE® International)	www.aacei.org
APM	The Association for Project Management	http://www.apm.org.uk/
GAPPS	Global Alliance for Project Performance Standards	www.globalpmstandards.org
IPMA®	International Project Management Association	www.ipma.ch
PMAJ	Project Management Association of Japan	www.pmaj.or.jp
PMI®	The Project Management Institute	www.pmi.org

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13 Appendix E: Summary of Deviations and Reasons

Introduction to Appendix

Throughout this eBook Series, we explain various points including alignment or deviation relative to global standards, particularly the PMBOK® Guide. We also addressed other deviations from common practice as we drive and advocate a move toward leading practices. In this appendix – **we repeat, summarize, or expand on some of these choices**.

Why Three Phases and Not Four

Those readers who have experience in project management may wonder why three project phases and not four, as it is common to subdivide the project life span into four phases with project close as the fourth phase. For example, a common practice lists the four phases as initiation, planning, executing, and closing. These names are due to the influence of the PMBOK® Guide and reflect the names of the process groups.

Why did not we follow this apparent 'norm'?

Through The CAM²P™ Model, the author advocates a holistic organizational view of a given project as we established earlier. Therefore,

1. When various professionals (through their literature or organizations) use initiate, plan, execute, and close as the names of project phases we view this as potentially confusing since they are using the names of the process groups for project phases. The risk is that practitioners will treat phase and process group as equivalent, and they are not.
2. From experience and clients observation, we notice that organizations often do not pay enough attention to project close. By the time implementation (or execution) is complete and the project team hands over the project's product to the client, the project management team is disbanded. The result is that the project close is lost or not done properly.
3. We view project close as an extremely important endeavor and an essential contributing factor to project management organizational maturity.

Because of the above factors, we advocate that delivering a project is not limited to executing the work and handing over the project to the client – internal or external – but must also encompass proper closure of the project. This is one reason why project closure is a stage within project delivery, with a gate, to emphasize that the project is not delivered until the team closes it.

> At the end, it is your choice whether to accept adoption of three phases or continue with four phases. Regardless of the choice you make, we emphasize the need to have a dedicated stage for project closure.

Why Project Authorization Document and Not Charter

Why did we select the term project authorization document instead of the recognized term the charter?

1. Despite the widespread use of the PMBOK® Guide and the number of certified project management professionals around the world, the author's experience in working with clients is that the word *charter* is **not** universally adopted, even in organizations with many project management professionals.
2. Per the PMBOK® Guide, 4th edition, p 71 "…the charter is the document that authorizes a **project or a phase**…" We wanted a term that is specific to the **project** and not leave potential confusion between a project and a phase or a stage. Further, in CAM²P™, most of the stage gates are the decision points for authorizing the next project stage, so a stage-specific document is required.
3. The common practice when the word charter is used is that a scope statement or at least a preliminary scope statement is likely produced, i.e. not a 'real' charter. In some cases, we even notice that a charter is more like an abbreviated project management plan.

4. The reality is sponsors do not have the time to write a charter, so they ask the project manager to develop it. This leads to the situations mentioned in item 3, meaning the project manager will produce a detailed document that resembles a preliminary scope statement or maybe a project management plan rather than a brief charter.

Because of these various factors, we selected the term *project authorization document* since it is clear from the words chosen that this is the document that authorizes the project. This addresses our objective of reducing the chance of ambiguity or confusion. For the stage, we prefer stage authorization document although the user can use other terms.

In the final analysis, it does not matter what this "deliverable" is named and we invite the reader to use the term that is most appropriate for their organisation culture. What we insist on are: (a) this document is mandatory for the project, and (b) it must be issued by executive management or the sponsor and not delegated to the project manager.

Why Project Management Function and Not Knowledge Area

Why are we using the term project management function and not knowledge area?

We are consciously not using the term 'knowledge area', in order not to have readers who are familiar with the PMI Framework limit their thinking to the ten knowledge areas that are described in the PMBOK® Guide fifth edition.

Another reason is the reality that in large projects there are organizational functions, often with dedicated resources, that may be assigned as a functional unit into the project management organization.

What are the functions?

1. All knowledge areas, except integration, are project management functions. We view integration more as a responsibility of the project manager rather than a function.
2. There are relevant topics, often industry specific, that are not included in the PMBOK® Guide. The team must consider these topics along with the knowledge areas of the PMBOK® Guide. For example, safety, environment, and logistics (or supply chain) are functions that are not listed in the PMBOK® Guide but are applicable for certain domains, such as construction or defense projects.

Why Project and Not Work Breakdown Structure

One common question that we get from clients and on project management's social and professional websites is the following: "*should the work breakdown structure (WBS) include the project management deliverables or a project management branch?*"

This is an interesting and important question.

The WBS must be limited to the scope. The author defines scope as '*What must physically be done to deliver the product, the deliverables.*' What this also means is *'work that we can define, assess progress for, and measure completion against in a quantitative manner'*. Another way to define scope is '*the permanent work that we deliver for the project*', not how to accomplish it.

Keep in mind the primary objective of the WBS is to facilitate the estimating, scheduling, and control of the project. The work packages generated in the WBS facilitate earned value management. Therefore, if we cannot measure progress an item, it should not be in the WBS.

The counter argument: we can measure progress for project management deliverables like reports. We are not sure exactly how can we progress project management but assuming one can, we ask *are reports and project management activities in the project* ***physical progress****?*

So which is the correct answer?

Does it really matter? Call it whatever you like **as long as** you know what physical progress looks like, and what the differences are between project scope (technical, functional) and project management deliverables.

In the sample provided in the last chapter of Part IV of this series, you will notice that we have included a project management branch on the WBS, and we are calling the graph a '**project** breakdown structure', not a work breakdown structure. We took this approach to show that the example was not a "pure WBS". What should you do? You decide!

Why Implementation and Not Execution

Once we heard a joke[84]: a European colleague was joking with a North American colleague, and told him: "*only in America do you talk about **decomposing**[85] the scope, then **executing** the project, and once done you do a **post Mortem.***"

We have documented earlier that one main reason for using different terms is, once again, to avoid confusion with the PMBOK® Guide. In the guide, execution is for the executing process group. A process group occurs in every phase, and it is NOT the execution phase of a project. Therefore, we prefer to use execution process group and implementation stage; this way there is no ambiguity.

Why Four Dimensions of Project Success and Not One

In the new PMBOK® Guide, fifth edition, Chapter 2, a new section defines project success. The following is only the first sentence of the definition: *"Since projects are temporary in nature, the success of the project should be measured in terms of completing the project within the constraints of scope, time, cost, quality, resources, and risk as approved by the project managers and senior management."* (PMI 2013) In general, it is not clear from the complete definition whether PMI is including one or two dimensions of success in this dimension. Assuming two dimensions, CAM²P™ has four. The main difference is that the PMBOK® limits project success to project management success and maybe (we say maybe because it is not clear) product success. On the other hand, CAM²P™ adds overall project success and objective success. Please refer to Part III for a chapter dedicated to the CAM²P™ four dimensions of project success.

Why 'You Decide'

In various places in this Series, especially in this Appendix and again in Part III, we use the term 'you decide'. Why this term and is it a sign of uncertainty about what we propose?

Our editor raised this point "*you aspire for CAM2P to become a leading methodology and best practice… (more or less). It cannot become this if you leave too many choices to preference. I would prefer that you state you have created a structure called a PBS which is composed of a WBS with a PM branch, and it is our recommended best practice. Then after that, you can provide the sophisticated user some latitude to adapt or customize, but stand behind a well-reasoned baseline first.*"

Every time we used this term we offered our terms, for example, stage authorization document, project breakdown structure, the names of phases, and stages, whether project close should be a stage or a phase. It is clear that with the methodology, we do offer a standard approach and recommend leading practices.[86]

On the other hand, one of the reasons CAM2P™ is a methodology and not a set method, are the concepts of customizing and adapting the standard model to tailor it to a given organizational context or project classification. Therefore, in Part III we stress that there are certain concepts in the methodology that we insist on, such as stages, stage gates, pre-launch stage, feasibility study, stakeholders' alignment and numerous other topics that we stress throughout this series. Yet, there are many areas in the methodology that we do not insist on because such insistence is counterproductive and lead to ridged method and restrictive methodology. These areas include naming the phases and stages, number of gates and stages, and using project versus work breakdown structure.

In closing, we do 'somewhat' agree with our editor, fixing the terminology would be beneficial, but it is our opinion the benefits are not substantial to override the importance of flexibility and adaptability of the methodology.

14 Appendix F: Summary Outlines of All Parts

Part I (eBook 1)

Section 1: Challenges and Opportunities

Chapter 1: Growth of Project Management
Chapter 2: Challenges: The Growing Pains
Chapter 3: Opportunities for Sustainable Growth

Section 2: Project Management Methodology

Chapter 4: Rationale and Model Perspectives
Chapter 5: Fundamental Concepts
Chapter 6: Introducing the Model
Chapter 7: Alignment to Global Standards
Chapter 8: Alignment to PMBOK® Guide

Part II (eBook 2)

Section 1: Project Concept Phase

Chapter 1: Project Pre-Launch Stage

Section 2: Project Development Phase

Chapter 2: Project Launch Stage
Chapter 3: Project Definition Stage

Section 3: Project Delivery Phase

Chapter 4: Project Implementation Stage
Chapter 5: Project Operations Readiness Stage
Chapter 6: Project Close Stage

Part III (eBook 3)

Section 1: Life Cycle Perspectives

Chapter 1: Life Cycles 360º

Section 2: Across the Project Life Span

Chapter 2: Project Approvals
Chapter 3: Project Estimates
Chapter 4: Project Control: Moving Baselines
Chapter 5: Project Risk Management
Chapter 6: Project Stakeholders
Chapter 7: Project Success

Section 3: Model Principal Features

Chapter 8: Applying the Model
Chapter 9: Customizing the Model
Chapter 10: Adapting the Model
Chapter 11: Potential Pitfalls

Part IV (eBook 4)

Section 1: Practical Application of the Methodology

Chapter 1: Samples from CAM²P™ Workshops
Chapter 2: Capital Investment Project

Section 2: Writing a Book Project

Chapter 3: Project Pre-Launch Stage
Chapter 4: Project Launch Stage
Chapter 5: Project Definition Stage
Chapter 6: Project Implementation Stage
Chapter 7: Project Close Stage

15 Author Biography

Mounir A. Ajam

Mr. Ajam is an entrepreneur, author, speaker, coach, advisor, consultant, volunteer leader, and project management thought leader.

He is the author of '*The Inheritance, a Story about Friendship, Community, and Project Management*' and *'Project Management for the Accidental Project Manager'*, and is working on '*Redefining the Basics of Project Management'*, which is not yet published.

He is a senior executive with close to three decades of outstanding global and practical experience in capital project industries such as engineering, construction, petroleum, utilities and project management. He has worked on projects worth billions of US dollars in North America, Europe, South East Asia, and West Asia.

Mr. Ajam is a co-founder and the Chief Executive Officer of SUKAD Group, a leading project management provider with offices in Lebanon and Dubai, United Arab Emirates.

Mr. Ajam and SUKAD play quite an active role in the project management community through various professional activities that are open to community members at no cost. He is a true volunteer servant leader. He is heavily involved with the project management community at the regional and global levels. Globally, he has served in various roles and capacities, such as serving on the Global Advisory Group to the Project Management Institute (PMI®) Registered Education Provider program and as a judge for various PMI® educational awards. He served on the 2008 PMI® EMEA (Europe-Middle East-Africa) Congress Project Action Team. He is also a graduate of the PMI Leadership Institute Master Class.

In West Asia, Mr. Ajam served on the board of directors for the PMI chapter in the Arabian Gulf. He led an effort to establish a PMI chapter in the United Arab Emirates. He also led the effort to establish the Global Project and Process Management Association (GPPMA) and served as its board chairperson for three years.

Mr. Ajam is an advocate of project management and recognizes its strategic value. He contributes to project management growth by publishing professional papers and articles on numerous platforms, such as PMI Congresses, Construction Week Magazine, Dubai Quality Group, DKV Experts Channel, PMForum.com, Wamda.com, and other publications. He is the main author on the SUKAD blog (http://blog.sukad.com), in addition to a personal blog.

For more information about Mr. Ajam, please refer to his personal page at www.mounirajam.com.

The Foundation

Twenty percent (20%) of the author's revenues from this work will be redirected to a foundation, a not-for-profit organization. This is in addition to 100% of the revenues from his previous eBook, ***Project Management for the Accidental Project Manager***.

Al-Insan is the short name for the foundation, but the full name is **Insan Al-Mujtama Foundation**. The origin of the name is Arabic, to reflect and honor the home of the foundation.

- *Insan* means *Human,* and *Al-Insan* means *The Human*
- *Mujtama* means *Society* and *Al-Mujtama* means *The Society (also community)*
- The literal translation for *Insan Al-Mujtama* means *Human of The Society*

The above is the literal translation for the name. However, when we combine the two words, the phrase '*Insan Al-Mujtama*' has a more philosophical meaning. In simplistic terms, the concept is about the difference between an individualistic mindset and a collective, social, service-oriented mindset. This is what one might call social or national consciousness. With this in mind, the purpose of the foundation is to serve humanity through serving humans, directly or indirectly. It is our intention to encourage all to do their part to be or become ***The Human of The Society***, to be ***Insan Al-Mujtama***.

The main purpose of this foundation is to use project management as a social enabler to serve communities around the world. The concept is to use project management for 'life projects' and the following are examples of the programs that Al-Insan will run.

1. Provide complimentary professional services (learning and consultancy solutions) to non-government organizations (NGO). This is specific to NGOs operating and providing social services in the least developed countries and communities on an international basis. The ultimate purpose is to help these organizations build their capacity for delivering service.
2. Provide services directly to communities or in partnership with NGO/humanitarian organizations. The services can include youth camps, training, advisory, and coaching services, among other needs.
3. Reaching out to schoolchildren by training their teachers and working directly with students on school projects, with a focus on using project management as a key enabler.
4. Organize youth camps (high school and university students) to help them learn project management and apply the learning on community projects in their villages, towns, and communities.

16 Endnotes

1. We pronounce 'camp' – the "2" is silent.
2. SUKAD (www.sukad.com) is the company co-founded by the author and operates in West Asia, out of offices in Lebanon and Dubai, UAE.
3. Included as a full sample in Part IV of this series.
4. General business projects, marketing, business development, publishing, launching a business, community development, and technology projects.
5. The first book by the author.
6. This Foreword is for the book, ***Redefining the Basics of Project Management***, which we are publishing as this eBook Series and will publish as a print book later in 2013.
7. This is a one-year training program organized by the Project Management Institute (PMI) for its volunteers' leaders.
8. Refers to Arabian Gulf, which includes the countries of Saudi Arabia, United Arab Emirates, Kuwait, Qatar, Bahrain, and Oman.
9. Two books are listed in the Bibliography, Appendix D.
10. Oxford Online Dictionaries (http://oxforddictionaries.com/).
11. Same reference.
12. Appendix C includes a partial list of professional associations.
13. Such as Chapters 7 and 8 in this eBook (Part I of the Series).

14. Appendix F includes a summary outlines for all Parts.
15. The PMBOK® Guide is a leading reference for project management and includes a project management standard, approved by the American National Standards Institute (ANSI). The Project Management Institute (PMI) publishes the PMBOK® Guide, which is the work of a large number of volunteers. The latest version is the Fifth Edition.
16. Project life cycle is another term for project life span, and often used interchangeably. However, the author prefers the use of Project Life Span.
17. ***Writing a Book Project***; the author followed this methodology to write a book.
18. In the Series, 'project domain' is used generically to refer to the project application area, industry, environment, or discipline.
19. The author uses the term 'project management' here in the wider context to include managing programs and portfolios, and for the organizational level, in comparison to managing a single project.
20. Practitioners and researchers consider project management to fit anywhere in the range from not a profession and never will be, through being an emerging profession, all the way to being a well-established profession. The author subscribe to the project management being an emerging profession, although he is not an authority on this subject.
21. In this context, the term 'work' refers to the methodology and this eBook Series.
22. http://blog.sukad.com/20120918/accidental-pm-challenge-to-executives/
23. A good read on this topic is Researching the Value of Project Management by Janice Thomas, PhD and Mark Mullaly, PMP (refer to Appendix D).
24. The author's use of 'Organizational Project Management' in the context of this Series includes program and portfolio management, program management office (PMO), enterprise PMO, and organizational maturity.
25. There are numerous resources on organizational project management and strategic project management including standards from PMI, GAPPS, Professor Lynn Crawford, Dr. Michel Thiry, Dr. Terry Cooke-Davies, and others.
26. We often use the terms challenges and failures together and we do so to show that there are differences. A failed project is one that the organization terminates before completion, or is completed with major issues; in other words, it did not achieve the original objectives. By contrast, a challenged project is one that is completed but possibly missing one or more objectives and/or possibly experienced issues in some of the project performance metrics, such as cost or schedule. This is similar to the Standish Group classifications.
27. It is common to read ads by project management training providers stating something like "Master project management in a 3-day course." The author has been in project management for close to three decades and dare not say, "I have mastered project management."
28. Refer to Appendix B: Glossary of Terms.
29. In the Series, we use this term frequently. Therefore, in this context we do not limit this term to size. 'One size fits all' symbolizes project size and complexity, in addition to crossing from one business sector or industry to another.
30. There is a common debate in project management online communities on whether a project manager can cross industries. This is a complicated and hotly debated matter; we leave it out of this work since it is not directly related.

31. PMP refers to the PMP® Certification; the Project Management Professional certification that the Project Management Institute (PMI®) grant to those who meet the requirements and pass an exam. PMI®, PMP®, PMBOK® Guide, and related terms are trademarks of the Project Management Institute, Inc.
32. PMBOK® Guide mandate is to be a generic standard; therefore, it does not cover specific industries.
33. The author realizes this statement as controversial, yet online forums are filled with debates on this point – and the controversy is real and not limited to the opinion of this author.
34. In other words, they think PMP is equal to PM (Project Management); to emphasize, they are equating a credential to an extensive field of study. For example, we recently had a request for a Master Degree in **PMP**.
35. The day the author was revising this text read a blog post that was presenting certification as "the holy grail of project management". The post gave six factors why people should pursue a certification… learning was the last factor on the list, even below (less important than) "adding three letters to your business card".
36. "The number of certified project managers inside the company is growing… because clients want them on their projects." Steve DelGrosso, IBM Project Management Center of Excellence; CIO Magazine, 20 January 2010.
37. Not all associations' certifications require experience and in some cases, the amount of experience is insufficient.
38. We recognize that some consider that PMI® and IPMA® (International Project Management Association) already provide this; we do agree that these organizations, particularly IPMA, offers different levels but we would suggest the need for another look at these certifications, especially the PMI® credentials.
39. IPMA offers four levels certification commonly labeled Level A, B, C, and D with Level A being the highest level. The actual names of these certifications may vary from one IPMA member organization to another.
40. In this context, by industry – we also means groups of related industries. For example, 'capital projects industry' refers to capital-intensive projects in oil and gas, utilities, transportation, and similar industries. Information technology, telecommunication, and other technology projects could be another group under 'technology projects'. There are many other possibilities.
41. For more information about this certification model, review the author's white paper outlining this proposed approach. He presented this model at a 1-day conference in 2012 organized by GAPPS (the Global Alliance for Project Performance Standards), the British University in Dubai, and supported by SUKAD. This is the link to the white paper: http://knowledge.sukad.com/project-management-white-papers.
42. For those who do not know some of these terms: these are scheduling terms and mentioned here to prove this point you can manage basic / business projects without knowing these terms.
43. Refer to Appendix B, Glossary of Terms, for definitions of Method and Methodology. Refer to the Front Matter of this eBook (The Project Management Series) for our views on why CAM²P™ is a methodology and not a method.
44. Project Management Knowledge Portal | By SUKAD: http://knowledge.sukad.com/.
45. English blog: http://blog.sukad.com/ and Arabic blog: http://blog-ar.sukad.com/.
46. We pronounce as '**camp**'.
47. Stage and phase are often interchangeable terms. In this model, they are assigned different meanings. However, both terms refer to a time span within the project life span.
48. The term 'project management function' refers to an area of focus within project management, such as cost, scope, time, risk, safety, among other topics.

49. Part III includes an extended discussion of project life span from different perspectives, including service providers.
50. Part III includes a chapter dedicated to project stakeholders.
51. Refer to a blog article for a discussion on differences between methodology, framework, and standard: http://blog.sukad.com/20130114/differences-between-standard-framework-methodology/.
52. Other common names for stage gates are phase exits, gates, kill points, milestones, and go / no-go decisions.
53. Refer to the next two chapters.
54. Just to be clear, we are not saying these organizations use CAM²P™, rather they use similar approaches.
55. PRINCE2 is a method and there are certifications that carry the same name. The United Kingdom's APM Group manages the PRINCE2 certifications.
56. Some practitioners talk about PMI or "PMBOK methodology" but we have already established that this is not correct since the PMBOK® Guide is not a methodology and PMI does not promote a methodology. IPMA does not offer a methodology either. Other famous methodologies might be software development methodologies and not project management methodologies; like Software Development Life Cycle (SDLC).
57. The use of the chevron shape for the phase is to emphasis that often a phase starts while the previous one is not complete; there is overlap.
58. Some prefer 'execution' to 'implementation' and that is fine as long as we differentiate between *execution as a stage of a project (time related)* from the *execution process group of the PMBOK® Guide (process related)*. To avoid this potential confusion we prefer to use the distinct terms ***implementation stage*** and ***execution process group***.

59. The term 'Operations Personnel' also includes roles such as end users, operations, client, and owner that represent the organization, function, and people that will manage or operate the product of the project when the physical work is complete. If the project is software then end users is a good term. If the project is a plant or an industrial facility then operations is a likely term. If the project is a new business, then 'company' management might be a better term.
60. Including PMI's PMBOK® Guide.
61. A charter is the document that authorizes the project (Project Management Institute 2013).
62. Not specific to a specialty like cost engineering, quality, value, or other functions.
63. We do not list them here since there are many and we do not want to highlight some over the others.
64. This gap could have been one of the challenges that we discussed in Chapter 2 but we moved it here since it directly relate to the theme of this chapter.
65. To clarify, the client request for proposal did not specify limiting the course content to PMI. In their mind, there are no other standards so they could not accept the additional learning materials. Obviously, this scenario reflects the power and global recognition of PMI.
66. The organizational project management maturity model is developed by the author. For further reading, refer to http://sukadway.sukad.com). This would be the subject of a future publication.
67. http://ipma.ch/certification/competence/ipma-competence-baseline/.
68. The author is a long-term volunteer with PMI; he has contributed to various editions of the PMBOK® Guide, and contributed to the first edition of the Program and Portfolio Management Standards. Further, he has served on numerous committees with PMI globally, such as REP Advisory Group, Congress Action Team, and is a graduate of PMI Leadership Institute Master Class. This is important in the context of this section to stress that we offer a constructive professional opinion and not criticism.
69. Refer to the SUKAD Blog (http://blog.sukad.com) for a selection of articles about the PMBOK® Guide.
70. Refer to the PMBOK® Guide, fifth Edition, Chapters 2, 3, and Annex 1; for most of the items in this section.
71. Also refer to the "Process Groups" sections in each chapter in Part II.
72. We did write the first draft of this book back in 2009 and finalized it in February 2013. Therefore, it is interesting to see that the newest edition of the PMBOK® (fifth edition) now has a dedicated knowledge area for stakeholders' management.
73. Such as project pre-launch, stage gates, stages in addition to phases, and many others.
74. The fifth edition has ten knowledge area, versus nine in the fourth edition.
75. Examples are safety, environmental, health, logistics. Further, PMI publishes supplemental standards to the PMBOK® Guide with more knowledge areas. For example, the construction supplement adds four knowledge areas to the nine in the PMBOK® Guide.
76. The PMBOK Guide fifth edition seems to be changing the definition where the term 'Project Charter' is now limited to the charter for the full project. However, we are not certain since the language is not consistent across the guide.
77. Refer to http://blog.sukad.com/ for articles on this point and other PMBOK® Guide related topics; further discussion also later in this chapter.
78. http://blog.sukad.com/20130225/project-successpmbok-guide-creates-confusion/.
79. The bold is to emphasize that we are referring to the whole project and not 'project or phase'. In general, whenever we use the term 'project' we refer to the whole project and not a phase or a stage.
80. This figure was developed by the author's colleague Mr. Luc Bauwmans.

81. http://www.britannica.com/EBchecked/topic/163723/diminishing-returns.
82. Oxford Dictionaries (http://oxforddictionaries.com/).
83. Same reference.
84. Refer to http://blog.sukad.com/20120906/how-to-kill-execute-decompose-a-project/ for a bit of humor with project management terminology.
85. Decomposition is the term used in the PMBOK® Guide to develop the work breakdown structure and later for generating the activities list; an alternate term would be 'sub-divide'.
86. Here is an example, the author prefers the term leading practice to best practice and this can be yet another debate but this debate is not central to this Series. What is central is the different between common practices, such as what the PMBOK® Guide offers and best or leading practices, which are at higher level than common practices.